A Clinical Lecture

ON THE

EARLY DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

Delivered at the Hospital for Consumption and Diseases of the Chest, Brompton, on March 4th, 1913,

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GENTLEMEN,—When I last had the pleasure of lecturing here, on the subject of the Elements of Prognosis in Pulmonary Tuberculosis,[1] I had occasion to refer to the importance from that point of view of the early diagnosis and treatment of the disease. To-day I propose to discuss these two aspects of the same great practical question—the discovery of tuberculosis within the chest at its very inception, and the management of the patient immediately thereupon. I feel sure that you will agree with me that these subjects deserve at least an hour's consideration by us. I say by "us," because I assume that, whatever may have been the experience of you individually in the diagnosis and treatment of tuberculosis, your object in taking this course of study at our hospital is wholly practical.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

We begin with the early diagnosis of tuberculosis. Now I can imagine some of you saying to yourselves that this is an easy matter. You refer to the familiar cases of very early invasion of the apex of a lung, characterised by symptoms and signs that cannot be mistaken, and thus constituting "incipient phthisis," "the first stage of phthisis." What more, you ask, is there to be said about diagnosis in which there is no obvious difficulty? Let me tell you at once that I am not concerned with this class of cases to-day, but with instances in which tuberculosis exists within the chest of even earlier phase, in which neither cough nor expectoration may be present, fever temporary or indeterminate, and the ordinary physical signs entirely inappreciable. If such cases do occur, the diagnostic and therapeutic importance of them must appeal to you strongly. Let me turn to certain well-established facts and discuss them systematically and in detail with you.

Diagnostic Import of Pleurisy.

The first of these facts is that in a large percentage of cases pleurisy, dry or with effusion, is followed by pulmonary tuberculosis. The percentage is variously estimated by different authorities. Let us be content with the indefinite term "large percentage," for this is no exaggeration, and it suffices for our present purpose. We have learned this fact in two ways. First, prospectively, by watching the history of patients who have had pleurisy under our own care; we follow it until only too often it ends in invasion of the lungs. Secondly, retrospectively, in taking the history of a tuberculous patient we quite commonly learn that he had pleurisy some years before. Of the pleurisy and the interval, and the patient's condition between the pleural and the pulmonary invasions, there is much to be said that interests the student of tuberculosis. The pleurisy may be dry, and then it is usually limited and quite temporary. One lower lobe most commonly is its seat, possibly both lower lobes over quite small areas, distressing the patient but little, and we may venture to assume by no means always brought to the attention of a doctor. Most probably some of the adhesions at the bases which we never fail to find post mortem in phthisis are established at this very earliest period.

In contrast to these "latent" pleurisies is pleurisy with effusion, which is so definite in its characters, and in some instances is so serious—with urgent illness and severe pain, not by any means a "quiet" or "latent" pleurisy—that it is regarded as "a disease." It passes through the stages familiar to you all, may require paracentesis, but more often does not, and after a variable period leaves certain anatomical changes and disabilities in the chest of very different degrees in different instances. The patient resumes occupation and "the disease" is considered to be at an end. Whether dry pleurisy or pleurisy with effusion, this illness in the cases before us is followed by pulmonary tuberculosis. The interval of health varies widely—from a few months, or even less, to 20 years. Here are some of the intervals in cases of my own: 3 years, 5 years, 8 years, 12 years, 15 years, 15 years, and 21 years. The break-down in health, the new illness, takes various forms. Most commonly, perhaps, it appears as an insidious infiltration of one apex with the ordinary symptoms; or hæmoptysis is the first event to raise the alarm. A young woman has right pleurisy and recovers. At intervals during the next two years she is believed to catch cold again and again. Now she has hæmoptysis, and I discover crepitus in the left apex. Or there may be another attack of pleurisy; or all these characters come together. And in yet other instances tuberculosis may manifest itself in the glands, or in the peritoneum, or in bones.

The sequence is so definite, and in these days you are now so convinced of the infective nature of tuberculosis, that you may have difficulty in understanding the necessity I feel to insist on it. You may hardly believe that the truth of the sequence was only recently established. And, which is the point on which I desire to insist, you may be surprised to learn that it is still very readily overlooked—a serious matter. But, after all, this is not remarkable, and for two opposite reasons. Dry pleurisy as an illness is usually so slight that its significance is not regarded. A pain in the chest for a couple of days may not call up in the mind of the doctor the grave picture of pulmonary phthisis to come. The early diagnosis of tuberculosis is not made, and an opportunity is lost. On the other hand, pleurisy with effusion constitutes in its clinical features a "disease" so complete in every character that it is looked upon as something independent, standing or existing by itself. Tuberculosis does not occur to the mind of the doctor, the diagnosis of "pleurisy" being sufficient. Indeed, with the certain knowledge based on experience of the nature of the illness, an observer is often tempted to refer the pleurisy to another category. He is especially likely to do so when the effusion passes through its natural course—rises, halts at a moderate height, ebbs, and disappears without other than medicinal treatment of simple kind. Can this be other than "simple" pleurisy? Surely tuberculosis does not behave in such fashion! Of how little value this argument is we learn by studying pleurisy with effusion in the course of active or chronic pulmonary tuberculosis. You know that we meet with cases of the kind. In every respect they follow the same natural course as the others. Sometimes the fluid may require removal, but more often it is of temporary appearance and is absorbed naturally. Indeed, I have known an effusion come and go whilst the intrapulmonary disease progressed actively to excavation. Therefore, the natural and apparently satisfactory disappearance of a pleuritic effusion by itself, that is, with no invasion of the lung, is not evidence of its innocence; rather the reverse. Another observation may mislead us unless it be properly interpreted—namely, absence of bacilli in the fluid removed, for such is our common experience. Indeed, this fact, when considered, ought to be regarded seriously instead of with satisfaction. The fluid effused into the pleura, like the œdema round an inflammatory focus in a limb, is an effect of reaction to a deeper process; and this must be pulmonary. I remember the time when the lymphatic relations of the pleura, lungs and bronchial glands were investigated by Klein; and how I concluded that pleuritic effusions or exudates passing into the delicate lymph structures of the lungs might well choke them and set up tuberculosis within them. But presently I discovered, by observing cases in the out-patient room here and elsewhere, that phthisis following pleuritic effusion appears as often on the unaffected as on the affected side—that is, is not a consequence of local drainage. Now we can say with assurance that the connexion is exactly the reverse, that the pleurisy is a manifestation of intrapulmonary tuberculosis—that is, originates in it.

Hæmoptysis sine Signis.

The second clinical fact that we have to consider relates to hæmoptysis. In the history of a patient with pulmonary tuberculosis well established we frequently find mention of hæmoptysis years before, apparently in the midst of health, brief, exciting temporary concern, and presently disregarded.

[1] THE LANCET, March 1st, 1913, p. 591.

And in the same way we quite often meet with cases of hæmoptysis in apparently healthy, possibly delicate, persons, unattended by physical signs of morbid character, occurring once or a few times only, with or without slight fever—an event, as it were, only, isolated, as if independent of pathological change in the lungs. I call this "*hæmoptysis sine signis*," finding it necessary to name it; so frequently do I meet with it that I have to group and distinguish the cases. Let me relate one or two instances to you. A lad of 18, with magnificent bodily muscular development (5 ft. 10 in. and 12 st. 2 lb.), had three abundant hæmorrhages, eight, four, and three weeks before I saw him. I found no morbid signs in his chest; he had neither cough nor sputum; neither had he lost weight. But his mother was tuberculous. A woman had hæmoptysis at 39 under another observer, and again at 46. In the interval she had three attacks of pleurisy and lost a child from tuberculous meningitis. A week after the second hæmoptysis I found nothing abnormal in the chest beyond weak and rather bronchial breathing and bronchophony at the right apex. No tubercle bacilli were found in the sputum. The absence of tubercle bacilli in such a case may appear to you to negative the diagnosis of tuberculosis. Let me discuss this point shortly. First, you know that it is not always possible to find tubercle bacilli in unquestionably tuberculous sputum, and that sometimes several examinations are necessary. Secondly, you also know that a considerable proportion of phthisical patients lose tubercle bacilli in the sputum after a course of treatment, although no one could maintain that the lungs are free from bacilli; recurrences of activity prove that the contrary is the case. Unquestionably the negative bacteriological result is, like the physical signs and some of the symptoms, misleading. And to this difficulty must be added the fact that in many cases of the kind no sputa are forthcoming when hæmoptysis has ceased. In these cases, then (and I have met with many more), you observe that, although hæmoptysis aroused suspicion of tuberculosis, suspicion could not be confirmed by other evidence, either at the moment or in the immediate course of the case. But after a variable interval, months or years, active disease makes its appearance. The conclusion is irresistible: the cases were tuberculous from the first. And we have formulated a clinical rule to regard all cases of hæmoptysis as tuberculous, excepting such as are obviously related to valvular disease, bronchiectasis, cancer, and a few rare diseases of other kinds. Some of you may say that failure to discover physical signs in the lungs in these cases of early hæmoptysis is due to want of skill or of care on the part of the observer. All of us are not equally expert in physical examination, but surely all are careful when dealing with hæmoptysis, which may be so profuse as to be actually alarming. For myself, I have often made a laborious, searching investigation of every part of the chest under the circumstances, all in vain, for morbid signs. It is then that we find ourselves troubled over the interpretation of the more difficult signs—palpable, by percussion, and auscultatory—with slight differences in the local movements, with impairment of resonance, with weak or with broken breath-sounds, with the perplexing observations we make on the respiratory murmur over the right apex as compared with the left—corresponding areas of the chest that normally yield very different signs. You may, then, take my word for it that you will meet with cases of hæmoptysis which, however experienced and attentive and alert you are, will puzzle you when put to physical tests.

And now what happens in cases of this kind? The histories that I have related have answered this question. The alarm raised by unexpected hæmorrhage is followed by intense relief when it so shortly ceases with no evidence either in symptoms or in signs that the lungs are diseased, health being perfectly restored immediately after profuse bleeding. A common conclusion is that the blood came from the throat. Work is pressing, and the man feels fit for it. In a week or less he is back at it, and thinks no more about the event. From this comfortable state of mind he often—not always—has a rude awakening. After an indefinite time pulmonary tuberculosis of ordinary form develops. Or hæmoptysis recurs, or pleurisy, or both of them come together, and later on the lungs are discovered to be invaded. The whole story, the natural history, of the morbid process is then revealed—unfortunately, it may be, too late.

A short time ago a man of 24 was attended by a friend of mine for hæmoptysis. No morbid physical signs were found, and the throat was suspected. Twelve months later he had more than one large bleeding; and now my friend was so impressed by the absence of appreciable signs of pulmonary tuberculosis that he took his patient to a laryngologist, who found fault neither with throat nor with chest. Nevertheless, the patient was very properly sent into a sanatorium for four months. He recovered his health, and kept well for 12 months more, whereupon hæmoptysis occurred for the third time; and now bacilli were discovered in the sputum. I saw him a few months later; and then—two and a half years from the beginning—found ordinary signs of infiltration of the right apex.

It is easy to see how patients and their friends may be deceived by the rapid recovery from the early hæmoptysis. As for us, their medical attendants, if we are pessimistic we appreciate the seriousness of the event in its prognostic significance. But if we are optimists, as I trust most of us are, we have to restrain the wish that is father to the thought. For once we have to look at our case with the strongest suspicion. And it is to impress this consideration on you that I dwell so long upon the clinical details of such cases as you will find them.

Early Cases Masked by Bronchial Catarrh.

I will next refer to cases occasionally met in which early tuberculosis is masked by bronchial catarrh. They are of different types. For instance, tuberculosis may follow upon the bronchial and pulmonary catarrh of measles. A delicate boy of 16, who had been feeling languid for months, was believed to have bronchial catarrh only, complicating measles. A fortnight later there were signs of extensive tuberculous pneumonia. Another lad of 16, who had had bronchial catarrh occasionally for years, was sent home from school a few months ago with a somewhat severe attack. Only loud rhonchi were heard at first over the whole chest, but within a few weeks focal signs were discovered in the right apex. These in turn disappeared, leaving nothing but weak respiratory murmur when I examined the chest. The observations of three previous examiners and a family history of tuberculosis alone enabled me to diagnose this as an instance of a tuberculous process quite slow and insidious.

Still another group of these "bronchitic" cases are regarded as chronic bronchial catarrh with emphysema, or it may be as "inhalation bronchitis." The tuberculosis is associated with these diseases, and possibly may have been engrafted upon them; but our present concern is that its existence is obscured by them in its early stage. In these cases there is usually sputum to furnish evidence of tubercle bacilli, but not always; and, which is more important practically, it may be so bronchitic in character that, along with the other features of the illness, it does not suggest bacteriological examination to the busy practitioner.

Evidence afforded by Family and Personal History.

It is under such circumstances as these that one especially appreciates the diagnostic importance of the patient's family history. Let us discuss this matter briefly here and its bearing on the diagnosis of all these types of early tuberculosis. When suspicion is aroused by the occurrence of pleurisy or of hæmoptysis, or when bronchial catarrh presents anomalous characters, the family history must be closely scrutinised. Recently I met with a case of bronchial catarrh with suspicious signs at one apex, in which it turned out that the father, mother and the only two sisters had all died of phthisis. And so with all the cases which we are considering. Whatever view you may hold on the subject of inheritance of tuberculosis *versus* infection, never fail to lay hold of the fact of occurrence of the disease in the same family. As for the patient's own past history, you will have appreciated the importance of it from what I have already submitted to you—the recurrences of pleurisy, the recurrences of hæmoptysis, the alternation of these at intervals. Similarly, you may discover glands in the neck of great age or scars of glands, or get a history of tuberculous knee or elbow, or of nothing more than a year's life on the Riviera, or of schooling on the coast of Kent—all significant when ascertained, but having to be dragged out of the patient by close inquiry. Occasionally one meets with a connecting link between what I may call the hæmoptysis type and the bronchitis type of these cases of early tuberculosis. A man of 33 was sent to me some time ago for free hæmoptysis, the fourth event of the kind within 12 months. His doctor in sending him wrote:—"I have examined his lungs and heart, and can find

nothing definite to account for the condition ..... no cough ..... no night sweats ..... and no loss of weight." I confirmed this description in the main, but found the respiratory murmur weak and soft, and the other ordinary signs of moderate emphysema. An area of somewhat impaired resonance below the right clavicle perhaps represented a local tuberculous change.

Languor.

The maximum [of] difficulty of diagnosis in early tuberculosis is reached when the only complaint of a delicate-looking youth is languor. Close inquiry elicits loss of weight as well as of strength, and the evening temperature proves to be slightly or moderately raised. There may be cough, which is explained away. There is no sputum, and so no possibility to put the issue to bacteriological test. Needless to say, tuberculosis is not the only disease that may be beneath these symptoms, but it is always to be suspected, and every effort should be made either to identify or to eliminate it. The family history and the patient's personal history are here again invaluable. The case of a boy of 15 who was sent to me a few weeks ago gives his family doctor and myself, as well as his parents, much concern. Some six months ago he was kept in bed more than once at a public school for what appeared to be a severe "cold in the head." At Christmas he was still poorly, and he has been kept home this term. His evening temperature rises occasionally to 99° F. and he had lost half a pound in weight the week before I saw him. There was neither cough nor expectoration, nor were there any adventitious sounds in the chest, but the physical signs over the right upper lobe were not perfectly satisfactory. On such evidence alone who could say that the boy is tuberculous? But consider his family history. On both sides it is bad. His father's brother, his father's paternal aunt, his father's maternal uncle, all died of phthisis, and so did his mother's mother and his mother's maternal grandmother. At least three streams, as it were, of tuberculous predisposition converged in this boy's constitution. Practical men do not make light of facts like these, however doubtful the physical signs, and however unsettled the doctrine of inheritance of tuberculosis. This type of case, where slight fever and delicacy, and loss of weight, and languor, and a suspicious family history are the only evidences of early tuberculosis, is quite often blended with the other types which we have examined. The patient's history may include the occurrence of colds on the chest, of hæmoptysis, and of pleurisy. In one case of my own the determination of tuberculosis as the cause of obscure fever, with rather indeterminate physical signs in the chest, turned on the discovery of associated congenital affection of the heart.

Most common of all difficulties and errors in this connexion is it to confound early febrile tuberculosis of the lungs with typhoid fever. Some years ago I saw in consultation a young officer who was believed to have passed through an attack of typhoid fever during the previous three months —fever lasting 21 days complicated by right basic pneumonia. A short period of apyrexia had then been broken by relapse of fever and signs of pleurisy in the same situation, which proceeded to effusion, also temporary, leaving signs of thickened pleura. I was asked what was the condition—typhoid, or empyema, or pulmonary abscess, or tuberculosis? Here, as usual, the family and past personal history came to our help diagnostically. A sister had scrofulous neck, and the patient had had pleurisy before. Eleven days after my visit abundant tubercle bacilli were found in the sputum. I have records of several cases of much the same character as this one, cases that had been diagnosed as typhoid. In one of them so convinced were the observers that the disease was typhoid that four "Widals" had been taken and found negative before the true diagnosis was reached, and this only when the signs of a small tuberculous focus were discovered at the apex or in some outlying situation. In other instances that I have seen abdominal distension and the ordinary evidences of tuberculous peritonitis, with or without pulmonary involvement, were interpreted to be due to typhoid or even to appendicitis.

EARLY TREATMENT.

And now, if I have carried you along with me in my insistence on these various types of cases being instances of tuberculosis, we may turn together to the second subject of my lecture, the early treatment of them. This, you will acknowledge, at once follows: early diagnosis indicates immediate and thorough treatment, and on this, as I said at the beginning, success of the issue mainly depends—that is, on taking advantage of the shortness of course and limitation of extent of the disease. But, speaking as a practical man to practical men, I ask you: Do we, whilst we gran, this conclusion, really apply it? When we have brought our cases of pleurisy with effusion, of hæmoptysis, and of other forms or temporary manifestations of tuberculosis safely through their acute or subacute stage, do we continue to treat the patients as one would treat them for a definite pulmonary lesion? I fear not. Indeed, I know that in some instances we never do so at all; in many other instances we do so in a half-hearted or a temporary fashion. Let us see why.

In the first place, these early manifestations of pulmonary tuberculosis are either too slight or, paradoxical as it may appear, too severe in character to impress us with the necessity for antituberculous treatment. A passing illness, a bronchial catarrh with moderate fever, in a delicate subject is soon forgotten even if it have been recognised as tuberculous. The youth returns to school, the man to business, for time is precious. On the other hand, the grave alarm excited by sudden hæmoptysis in an apparently sound and healthy person is followed by an equal reaction—that is, relief at its termination. The immediate danger over, the remote danger is disregarded. This patient also returns in a week or two to his occupation, whatever the hygienic conditions of it may be. As for pleurisy, if it takes the form of a passing dry attack how few of us actually insist on prolonged treatment! If there has been effusion, especially if this has been large and has called for paracentesis and ended satisfactorily, we are influenced in another way to overlook the need of strict and prolonged treatment.

As I said at the beginning of my lecture, one cannot help looking upon acute pleurisy as a disease *per se*. We discover it readily by its physical signs. We watch day after day the extremely interesting phenomena of increase of fluid, displacement of heart, collapse of lung, the course of the fever, and the other symptoms. We find it necessary after so many days to tap the effusion. It is a simple proceeding, but it is a definite act, the success of it impresses and satisfies us, the patient mends forthwith. Even the dulness that remains after the tapping for many weeks disappears finally; and in some instances, at least, no trace of the extensive involvement of pleura and lung is to be found in casual examination. Who can well blame us if the very dramatic course of the illness (to use an expression too strong for your ears, but not for the patient's) provoke us to forget that it is essentially tuberculous, and that in two, five, ten, or 20 years the lung may be invaded afresh unless special treatment be employed forthwith?

Sanatorium or Non-sanatorium Treatment.

What is the practical issue of this lengthy discussion? What form is treatment of such cases to take? Opinion may be said to be sharply divided as to the severity—if I may call it severity—of the method to be employed. Some of our leading authorities at this moment send the patient into a sanatorium without hesitation, and insist on prolonged residence there. Another group of authorities (apart from those who consider treatment unnecessary, with whom we have nothing more to do at present) regard sanatorium treatment as unnecessarily strict in such cases, and may even be disposed to agree with the patient and his friends in considering it dangerous, although ready to confess that a railway carriage or a meeting hall is more likely to harbour tubercle bacilli than a well-conducted sanatorium. These authorities insist on what may be called modified sanatorium treatment at home. More correctly, it is sanatorium treatment at home and at work. The patient, if he may be called patient still, lives in fresh air night and day. His bedroom, his sitting-rooms, his domestic and social routine morning and evening, his office or shop or workshop, are all inquired into in detail, in a thoroughly practical manner, by his doctor, and every fault or flaw is corrected as far as possible. If in any important respect hygiene cannot be secured, then larger measures are undertaken. The man's occupation, present or prospective, may have to be changed. Here, as so much elsewhere in connexion with tuberculosis, we discover the disadvantages of the poor. With them it is a question of life *versus* livelihood. I trust that State assistance, which I understand some of you propose to administer, will be extended to these early cases, with no evidence, fortunately, so far, of "open" tuberculosis. We have difficulty of another kind when the

patient is well-to-do. He may be a young man ready to enter an office or a warehouse, and his relatives cannot be persuaded to sacrifice his prospects to the considerations we put before them respecting the future. Our effort naturally is to secure, if possible, an outdoor occupation for our patient. In some instances this involves emigration. But only too often circumstances are against us. Up to a certain age, I mean in youth, it is possible to make satisfactory plans, to choose a suitable profession or trade or other occupation. Excepting for the long period of study in a town and the cares of examinations, medicine is a suitable career for some of these subjects of early tuberculosis. A doctor has the whole empire in which to select his home, and the ocean as well as the land. But if they have already entered on a career for a few years, patients resent our advice to sacrifice it; and indeed, as I have said, the majority cannot afford to do so.

Which of the two courses, you ask me, do I recommend—sanatorium or non-sanatorium? I reply that I recommend them both—that is, sometimes the one, sometimes the other. In every case of pulmonary tuberculosis there are indications for and against sanatorium treatment. The one set or the other set prevails, and the patient is advised accordingly. So it is at this early stage. I have to-day two patients belonging to our present series in sanatoriums, the one consequent on hæmoptysis, the other because of simple loss of energy and weight and extremely slight pyrexia, both without definite physical signs. But I have more patients of the series doing their best at home, whether with or without attention to work. I found it impossible to take an only boy of 15 from his wealthy parents. They will go abroad with him to a suitable climate. Another patient lives in an entirely unexceptionable situation in this country, under the close observation of his family doctor. A third patient was removed from an office in the City and sent at once to the country to take up an outdoor business. A delicate boy with suspicious or more than suspicious symptoms goes to a school on the coast of Kent, where such lads are specially received and closely watched and cared for. And, finally, we have to compromise in a good many instances in other ways, being able only to insist on strict hygiene in house and office, as I have already said, on early hours, on full advantage being taken of week-ends and of holidays, with abundant food and well-regulated exercise. It is in such cases as these which we have been discussing to-day that Dr. David Lees' method of continuous inhalations of antiseptic solutions would appear to be peculiarly suitable and successful.[2]

In saying that I do not send all these patients into a sanatorium, after insisting on the nature of their disease and on the extreme importance of immediate and thorough treatment, I may appear to you to "give away my case." It is not so. Those whom I do not send into a sanatorium are nevertheless distinctly informed that they are to regard themselves as subjects of tuberculosis, and must submit to home sanatorium life and to other methods of treatment for it. Tuberculin, for example, may be indicated clearly in some of them. The *results* of management of these cases on the principles that I am advocating are perhaps more easily appreciated from the negative than from the positive side. There are many instances of the unfortunate effect of despising the danger-signal given by hæmoptysis and pleurisy. For example, a woman of 30 had pleurisy with effusion three and a half years ago. Being a poor struggling actress, she had no choice but to continue professional work under anything but hygienic conditions. Six months ago hæmoptysis appeared as a second warning, but this, too, had to be disregarded. Cough followed; and now she comes to me, unable to work and with blowing breathing over both apices. On the other hand, we are entitled to assume that patients who follow our advice, and submit to immediate treatment, will do well. Almost my first words this afternoon reminded you that the value of early treatment is universally acknowledged.

In conclusion, let me once more put these two considerations before you: first, that we are liable to fail to recognise the manifestations of tuberculosis while it is still of comparatively slight degree and of short duration; and, second, that when we do recognise it under these circumstances we often fail to treat it seriously.

[2] THE LANCET, Nov. 19th, 1910, p. 1475.

THREE CASES OF SOLID TUMOURS OF THE UMBILICUS IN ADULTS.

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THE three cases which follow occurred close upon one another as to time. And as they were the only instances of *solid* umbilical tumours which I had recently seen in adults, and as two of them were quite unusual in structure as far as I then knew, I was stimulated to inquire into the experience of others as recorded in the current literature of surgery. The navel of children is well known to be the seat of many interesting morbid conditions, such as papillomata, fistulæ, &c., but with these we were not concerned. Cystic conditions, too, in connexion with remnants of urachal structures had no particular relation to the solid lumps in the cases in hand. These have been ably dealt with by Mr. Alban Doran both anatomically and pathologically, and could be left out of our survey. It was the solid tumours of the umbilicus in adults, tumours which could be or might be suspected to be malignant, that seemed to call for particular study, for mistakes in diagnosis and treatment might prove very dangerous considering the relations of the umbilicus to the peritoneum and other important structures.

It is a rather remarkable fact that although at one period of our life the umbilicus with its many important constituents is almost the "hub" of our being it should so comparatively rarely claim surgical attention except as the seat of herniæ. It includes, as we know, at one period of intrauterine life, important arteries and veins, the urachus with one form of epithelium and the omphalo-enteric or vitelline duct with another form; and later there is the firm scar tissue which might well, and does, include remnants of any of these structures as well as some of the ordinary ectodermal skin glands in a way to modify their growth and development. And yet, I think, most surgeons will agree that to have to deal with *solid* tumours in the navel is a matter of some rarity. When they do occur they are a surprise and may be wrongly interpreted and dealt with as we can see from recorded cases. The subject, therefore, is not merely of academical interest, but of great practical import. When we have before us what has been learned in this particular field, we ought to be able to make a fairly accurate diagnosis, and at all events, avoid any gross error in treatment, or neglect of treatment which in some cases is quite as bad.

On looking up the literature of the subject, home and foreign, one is struck with the fact that although *solid* umbilical tumours are a rarity, in the experience of one single surgeon or hospital, a considerable number have been put on record and their source of origin, pathology, and structure have been worked out on the whole pretty completely. It will be seen that these tumours have been found to have had the following modes of origin: 1. Malignant growth of abdominal viscera have become attached to the umbilicus and have grown through it before producing any marked abdominal symptoms (my own case, No. 1, and others I have seen). 2. The umbilicus may be originally or be converted ultimately into a bottle-shaped cavity which may be almost or completely closed, so that a large amount of epithelial débris accumulates within it and forms a concretion or cholesteatoma around which suppuration and great fibrous thickening may occur. (A case of this sort is recorded by Coenen [2] which produced serious symptoms). 3. Atheromatous tumours derived from sebaceous follicles included in the navel scar may reach considerable size. 4. Adenomata may form from sweat glands included in the scar and reach considerable dimensions (von Noorden), perhaps my own case, and simulate a malignant tumour. 5. Adenomata have been found lined by columnar cells, apparently being formed from remnants of the vitelline duct. 6. Calculi have been formed in remnants of the urachus (Paget's case). 7. Malignant tumours of the navel have been met with in some cases derived from ectodermal structures and in some others from vitelline remnants (columnar epithelium). 8. One has been described by H. Ehrlich which apparently was derived in part from remnants of the vitelline duct and in part from the sweat glands of the umbilical skin. 9. Foreign bodies have been found to lodge in a very hollow umbilicus in fat people and become mixed up with

hairs, shreds of clothing, dust, and epithelial débris, and to cause by irritation a large solid inflammatory tumour. 10. Secondary malignant deposits have been found to show themselves in the navel before the primary visceral growth within the abdomen has given any signs of its presence.

Examples of all these have been described in many interesting monographs. The most exhaustive account of the whole subject is given in a section of the "Deutsche Chirurgie" by Iederhose in 1900. Since then many interesting individual cases have been described and figured, the most characteristic being given below.[5]

In any case of solid tumour of the umbilicus the point of greatest importance to be determined is whether it is malignant or not. For the patient this is of the utmost moment in view of his immediate and remote prospects; for the surgeon hardly less so, considering his responsibilities in removing a structure with relations to the peritoneum and other vital parts. For it must not be forgotten that, whether benign or malignant, these tumours are mostly associated with foulness by the time they come to be dealt with surgically. Either the malignant growth has broken down or the concretion tumours have become inflamed and are discharging. This has provéd a very great difficulty in many recorded cases and in two of my own. To deal with a suppurating condition which involves perhaps the removal of a considerable portion of the abdominal wall and perhaps also a part of an underlying viscus is, of course, a serious matter, especially if the condition is malignant and the excision has to be free. And even if non-malignant, the foul inflammatory area may be hard to come at effectually, reaching, as it does, into close relation with the peritoneum. And then behind this all there is the doubt as to malignancy of the mass and the propriety of regarding it as such. A perusal of some of the cases described in the "References" below will convince anyone of the risks of faulty diagnosis and action in these cases. The cases of adenomata mentioned are also of much interest, especially as in some a suspicion of malignancy could not be put aside easily, as in my own Case 3.

CASE 1.—A man, aged 37, admitted to University College Hospital Feb. 3rd, 1910. In March, 1909, he noticed occasional pains round the navel irrespective of food. These lasted three or four months. In July following he entered a country hospital, having noticed for about a fortnight a swelling in the abdominal wall at the umbilicus. This was opened by the knife on July 24th, and was said to have given exit to pus and to have healed again in a week. In September following the swelling increased again and burst, and had been discharging ever since. On admission on Feb. 3rd he was well nourished. Below and to the left of the navel was a discoloured and irregular prominence about 2½ inches in diameter, with a discharging wound through the old scar. On palpation the induration was much larger than it looked. It extended downwards for several inches in the left rectus muscle and was everywhere very hard. Except to the skin over the most prominent part it showed no attachment anteriorly, but was incorporated with the rectus. The discharging sinus led downwards and outwards about 1½ inches. To be quite sure of its nature, which was believed to be cancerous, I made an incision into the swelling, and finding it unmistakably so prepared for removal. This was done on Feb. 20th between two long elliptical incisions from above downwards, opening the abdomen and including most of the left rectus muscle. The tumour was then seen to be obviously a growth of the transverse colon fungating through the umbilicus. I then clamped the colon on each side and removed it with about 2½ inches on both sides of the growth—about 7 or 8 inches in all. The ends of the divided bowel were brought together in the usual way, and the wound was only partially closed as there was little or no muscle to fill it. Some suppuration followed, as I expected, from the foul state of the breaking-down growth, and a fæcal fistula formed for a little, but soon closed and the wound granulated up. On May 6th I removed a nodule of growth in the skin to the right of the scar, and took the opportunity of undercutting the skin and inserting a delicate wire netting. Since then all has gone well, and I have recently seen the man, more than three years after the operation, quite free from any sign of recurrence. He plays golf and performs on a wind instrument, and has no hernia.

The growth was a typical columnar carcinoma, and corresponded to an ulcer on the mucous surface of the free side of the transverse colon as large as a crown piece with everted edges. There were no tangible glands in the mesentery or any other signs of generalisation.

CASE 2.—A man, aged 38 years, admitted into University College Hospital April 30th, 1910. For eight weeks he had suffered from dull pain to the left of and below the umbilicus and discharge from the latter for three weeks. He had had diarrhœa alternating with constipation for about two years, but more lately. Last attack of diarrhœa at the beginning of April; no blood or slime. He had had influenza during February and March and lost weight considerably. Then he improved, but had been getting thinner again lately.

On admission he looked rather ill. The abdomen was generally full. There was some bluish-red discolouration around the umbilicus and a discharge from it of thick creamy pus containing diplococci and streptococci, both Gram-positive and negative. A probe went into the sinus directly backwards for about an inch. Around the umbilicus could be felt a mass about 4 to 5 inches in diameter. It lay mainly downwards and to the left, and when pressed caused increased flow of pus. The swelling reached to halfway between the navel and pubis and only 1 inch above the umbilicus. It was moveable from side to side, very slightly from above downwards. Liver not enlarged.

Regarding this case as probably of the same nature as the last, which was still in an adjacent bed, I decided to treat it in the same way precisely. The mass was included between two elliptical incisions. With the finger in the abdomen the posterior part of the mass was found to be firmly adherent to the transverse colon, as in the other case, which seemed a further corroboration of the diagnosis of a colic carcinoma attached to the navel. The irregularity of the bowels and pains also pointed in the same direction. The transverse colon was therefore excised to the extent of about 8 inches and united end to end. The difficulty of closing the wide defect in the abdominal wall was great, as the left rectus was taken away with the tumour, and in the middle of the wound only a skin covering could be obtained.

The parts removed consisted of 8 inches of the colon adherent to the mass. When this was cut across it was found to contain a large cavity in which lay a cholesteatoma as large as a pigeon's egg, and of pretty firm consistence. This was surrounded by suppurating granulations which lined a thick fibrous wall which was incorporated firmly with the colon. It was not a malignant growth to the eye. Unfortunately having been shown to many classes it was at last lost without a section having been made for the microscope. The patient made an excellent recovery, in spite of a small fæcal fistula which soon closed soundly.

It must not be forgotten that in both these cases suppuration was present at the time of operation which greatly complicated the technique of excision of the gut. It might possibly have been desirable to have tried to remove the growth without excising the colon. But in the first place all the appearances before laying open the mass were in favour of its being malignant, and in the second it was incorporated very firmly with the wall of the colon. There appeared, therefore, no choice. I have seen this patient within the last few weeks. He is quite well, and has little or no inconvenience from the weakening of the abdominal wall by the removal of a large part of the rectus muscles.

CASE 3.—A woman, aged 37, came to me on Sept. 2nd, 1908, for advice about a small tumour of the umbilicus which she had noticed during the last few months. The lump was of about the size of a filbert, and lay in the lower part of the navel. It was irregular in outline but smooth, and was of a bluish purple colour, suggesting a melanotic sarcoma. There were no abdominal symptoms or signs and no secondary deposits in the inguinal glands or elsewhere. A few days later I removed the whole navel and adjacent skin widely between two elliptical incisions, opening the abdomen on either side and taking away the intervening peritoneum. There were no traces of growth within the peritoneal cavity. The wound was stitched up in layers and healed absolutely by first intention. The specimen was given to Mr. Lawrence, the curator of our museum, for examination. Sections showed to the naked eye a hard fibrous structure, the superficial parts of which under the epithelial covering of the navel were pigmented. In the deeper parts of this fibrous tissue were many islands of tubular glands lined with columnar epithelium and filled with epithelial débris. Some were cut obliquely and showed a looser areolar investing layer outside the membrana propria. The latter was not penetrated by the cells, so that one sign of the benign character of the tumour was present. Nor were there any other signs of the spread of the growth beyond the limits of the tubules. I therefore put it down as an adenoma derived from remnants of the vitelline duct, of which I had read but never seen.

I saw no more of this lady until January, 1913, when she consulted me about a little nodule seated in the subcutaneous fat about 2 in. internal to the left anterior iliac spine. It felt about the size of a pea, and was hard. On gently pinching the skin the latter puckered over the nodule. There were no enlarged inguinal glands or other signs of infiltration. This knot was removed shortly after by Mr. F. Hinds, of Worthing, and was sent to me. Mr. Lawrence kindly prepared several microscopic sections of it. They showed precisely the same structure as the first nodule, except that the fibrous tissue which made up the bulk of the mass was more dense and had fewer connective tissue corpuscles scattered through it.

The reappearance of this small knot repeating the structure of the first nodule at the umbilicus suggests of course strongly that the first was malignant and had recurred in the lymphatics of the subcutaneous tissue of the abdominal wall. Then the question arises, Was the original lump in the umbilicus a primary growth in some of the glandular remnants of the umbilicus enumerated above, or could it be a nodule secondary to some visceral carcinoma within the abdomen? This latter view is one adopted by Mr. Shattock, to whom I sent sections of both the first nodule removed and that obtained four and a half years later, and who was kind enough to write to me fully on the subject. It may be correct, but so far the lady has shown no evidence of visceral trouble, nearly five years after the appearance of the first nodule in the umbilicus. Time alone will show. In the meanwhile I am inclined to negative the visceral theory.

I close these notes on umbilical swellings by alluding to a case which has been under my care since they were written, and which, I think, deserves to be recorded.

A boy, aged 14, was admitted to University College Hospital on April 26th, 1913. He complained of a swelling of the umbilicus, which had appeared a day or two earlier, and was now about the size of a small walnut. The swelling was red and very tender, and was evidently an abscess about to burst. There was besides very much induration of all the lower part of the abdominal wall, but especially of the right lower quadrant, which was slightly more prominent than the left. The only history we could obtain was that he had been quite well until he had received a blow over the cæcal region four days previously. The condition had then rapidly developed. There had been no vomiting, but the temperature had risen to 101° F., and the bowels were confined. Pending further examination a boric fomentation was applied, under which the umbilical abscess burst the following day. A probe could now be passed through the small opening downwards and backwards towards the posterior aspect of the pubis, but very little thin discharge escaped, even when later the sinus was slit up in the middle line on May 1st. I was at first inclined to think that the condition was due to a urinous abscess in the urachus. But there were no bladder symptoms, and no urine escaped at the umbilicus. The swelling over the right

lower quadrant of the abdomen now increased and grew more tender, and superficial swelling could also be felt per rectum. A radiogram now showed an ordinary pin in the cæcal region. It appeared to lie about an inch internal and superior to the centre of the acetabulum. It was actually located by our radiographer, Mr. R. Higham Cooper, at a later day at a point (the head) 6·6 cm. below the ant. sup. iliac spine, and 10 cm. nearer the mid-line (the point 7·7 and 8 cm.). As it was ultimately plain that an abscess was forming over the cæcum in the abdominal wall, I made the usual incision for appendicitis on May 9th. The muscles were found to be infiltrated with pus as far as the peritoneum, beyond which I did not go. No pin was found, and the wound was simply packed loosely for drainage. After this both the umbilical and lateral wounds cleaned slowly and the induration of the abdominal wall subsided sluggishly. I was about to explore the wound over the cæcum for possibly deeper pus when on May 29th the pin appeared in the wound among the granulations. It was exactly at the spot indicated by Mr. Cooper as its seat. After this the induration disappeared more rapidly, and the wound granulated up.

This appears to be one of those rare cases in which a pericæcal abscess, working through the peritoneum and the transversalis fascia, makes its way upwards and inwards in the prevesical space along the remnants of the urachus to point first at the umbilicus. This did not adequately relieve the abscess, which eventually began to point over the cæcum, and had to be also opened there. Whether the pin lay originally in the appendix or in the cæcum it is impossible to say. At some future date it may be desirable to investigate the condition around the vermiform appendix, and if necessary to remove it, but not until all the present induration and adhesions have settled down and been more or less absorbed.

References (some of the most important).—1. Bruggemann describes a carcinoma of the navel in a man aged 69, which apparently started in an adenoma of the vitelline duct. The glands in the groin were secondarily affected. Vide Centralblatt für Chirurgie, 1910, p. 1236. 2. H. Ehrlich describes a tumour of the navel divided into two portions, one half showing the structure of adenoma of the sweat glands, the other that of an amphalo-enteric adenoma. Vide Deutsche Zeitschrift für Chirurgie, Band lxxxix. 3. Mintz, in the same volume, describes a case of adenoma of the navel derived from a remnant of the vitelline duct. He had already described a similar case in Deutsche Zeitschrift für Chirurgie, Band li, p. 545. 4. Coenen records two cases, with illustrations. The first was a cholesteatoma exactly like my own case (2). Coenen regarded it as connected with the urachus. The patient's age was 49. The second case appeared to be a mass of epithelial débris retained in a "bottle-shaped" umbilical pocket, blocked at its outlet by a fibrous mass. Münchener Medicinische Wochenschrift, 1909, p. 1583; also Bruns' Beiträge zur Chirurgie, 1908. 5. Lederhose has an exhaustive chapter on diseases of the umbilicus in Deutsche Chirurgie, 1890. 6. Soubeyran showed at the French Surgical Congress in Paris, 1907, a man aged 35, from whom he had removed a typical dermoid cyst of the umbilicus containing hair and sebaceous matter. It was attached to the peritoneum, and was in the operator's opinion a product of ectodermal inclusion. Centralblatt für Chirurgie, 1908, p. 795. There are numerous other references which might be added to these.

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PARATYPHOID FEVER ASSOCIATED WITH AN EPIDEMIC OF TYPHOID FEVER.

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EPIDEMICS of paratyphoid fever have been recorded from the continent in recent years, but hitherto in this country, if we exclude two outbreaks, where the symptoms were those of acute gastro-enteritis, reported by Bainbridge and Dudfield [1] and Tromsdorff, Rajchmann, and Porter,[2] only sporadic cases of the disease have been described, and of these many, although probably genuine cases, have not been satisfactorily proved bacteriologically. The very close relationships existing within the paratyphoid-Gaertner group of micro-organisms make it essential that every mode of verifying the identity of the supposed causative agent should be adopted. Considerable light has recently been shed on the much-disputed relationship of the micro-organisms of paratyphoid fever and food poisoning by the work of Boycott [3] and Bainbridge,[4] and it is the technique described by the latter that has been mostly followed in this investigation.

Although it is 13 years since Schottmüller [5] showed that the micro-organisms causing paratyphoid fever possessed quite different characters from those of B. typhosus, the want of agreement since then among bacteriologists regarding the relationship of paratyphoid to food poisoning has hindered to some extent the application to practical medicine of Schottmüller's valuable work. It has not yet been fully recognised by the general practitioner and by the public health officer that paratyphoid fever is a distinct entity, and that, although its symptoms and course are very similar to those of typhoid fever, the two are etiologically as distinct as scarlet fever and measles, and require to be dealt with accordingly. The cases I have to record will show very clearly that a much greater distinction must henceforth be drawn between the two diseases than in the past.

In the autumn of last year Aberdeen suffered from a sharp epidemic of typhoid fever. Of the 112 cases notified as typhoid fever, most of them treated in the City Hospital, 12 cases were judged on closer study to be suffering from infection with bacillus paratyphosus B.

While the diagnosis can only be regarded as complete when the causative micro-organism is isolated and fully identified with the help of modern serological and cultural methods, it is submitted that very reliable evidence is afforded by comparing the agglutinating power of the patient's blood for different micro-organisms. Cases have been recorded by Pratt,[6] Fox,[7] Grünberg and Rolly,[8] where the agglutinations pointed to paratyphoid, while B. typhosus was actually circulating in the blood. The interpretation of such apparent anomalies may be helped by the record of two very interesting cases in the present series, which were admitted to hospital suffering from paratyphoid fever and later developed typical attacks of ordinary typhoid, apparently from infection from typhoid patients in the same wards.

CASE 1.—A, a male aged 16; admitted on Oct. 28th with a history of having been confined to bed for a week, and of having suffered from malaise and pains for a week before that. Marked delirium for a fortnight. Pyrexia for 14 days after admission. On the 28th a blood culture investigated by Dr. J. G. Muterer gave a pure growth of B. paratyphosus B. On Nov. 12th the same bacillus was found in abundance in the fæces and urine. No B. typhosus was found in the 20 colonies examined. On Dec. 7th this patient's blood agglutinated B. typhosus in dilution 1 in 400 (completely only in 1 in 25) and B. paratyphosus B up to 1 in 3200.

CASE 2.—B, a male aged 25; admitted on Oct. 19th with a history of having been "up and down" for nearly four weeks previously. During his stay in hospital the spleen became palpable, and "pea-soup" stools were passed. The temperature swung irregularly till Nov. 1st, remained normal for a week, and thereafter swung markedly till Dec. 23rd, when the patient, suffering from marked mitral disease, was allowed to go home, where he died in a few weeks—obviously from the cardiac condition. B. paratyphosus B was found in the stools on Dec. 8th and 19th. On the 8th and the 22nd no agglutinins were found in blood for B. typhosus in dilution of 1 in 25, while B. paratyphosus B was agglutinated in dilution 1 in 400.

CASE 3.—C, a male aged 18; admitted on Nov. 5th. Onset gradual from about Oct. 30th. Temperature normal from Nov. 15th. On Dec. 4th B. paratyphosus B was found in his fæces. On Nov. 14th his blood agglutinated B. typhosus slightly up to a dilution of 1 in 800 and B. paratyphosus B completely in the same dilution and partially to at least 1 in 1600. On Dec. 7th the agglutination limits were for B. typhosus 1 in 50, and for B. paratyphosus B 1 in 800.

CASE 4.—D, a female, aged 49; admitted on Dec. 4th. Onset gradual since about Nov. 11th. Temperature normal ten days after admission. On Dec. 10th, 13th, and 18th B. paratyphosus B was found in the stools, and on the 18th in the urine also. On the 10th a sample of blood agglutinated B. typhosus up to a dilution of 1 in 100, and B. paratyphosus B to 1 in 1600.

That these four cases are genuine examples of paratyphoid fever probably no one would dispute. Although demonstration of the bacillus in the blood is the most complete proof, still the work of Savage [9] in particular has shown that the paratyphoid bacillus is not so widespread in its distribution as some German bacteriologists claim, and its isolation from fæces or urine has great value in fixing the diagnosis. The characters of the micro-organisms isolated will be given later.

CASE 5.—E, a male aged 38; gradually grew ill from Nov. 2nd; he took to bed on the 7th. He was admitted to hospital on the 13th, with spleen enlarged and rose spots present on abdominal wall, and two days later pea-soup-like stools. Temperature subsided four days after admission, and on the 18th B. paratyphosus B was found by Dr. Muterer in the stools. The patient's blood on the 16th agglutinated B. paratyphosus B completely in dilution 1 in 400 and partially to 1 in 1600, while traces of agglutination were got with B. typhosus also to dilution 1 in 1600, though there was no complete agglutination in any of the lower dilutions. On Dec. 6th agglutinins for B. paratyphosus B were stronger, while none for B. typhosus were detected. On Nov. 24th B. typhosus was isolated from the urine, and on Dec. 4th the temperature began to rise in step-ladder fashion, subsiding finally on Jan. 8th. Blood tested on Dec. 22nd and on Jan. 19th now agglutinated B. typhosus in dilution of 1 in 800, while agglutinins for B. paratyphosus B were now rapidly disappearing. During this second illness, B. typhosus was frequently isolated from the urine and stools.

CASE 6.—F, a female aged 20; gradual onset from about Oct. 29th. She was admitted on Nov. 19th; no rash; spleen palpable 10 days later. Temperature normal 14 days after admission. On Dec. 9th and Jan. 20th blood agglutinated B. typhosus slightly in dilution of 1 in 25, and B. paratyphosus B in at least 1 in 100. During convalescence the excretions were examined frequently, always with negative results. The patient was discharged on Jan. 28th, but did not feel well at home, and on Feb. 11th was readmitted with a typical attack of typhoid, during which B. typhosus was isolated from blood, fæces, and urine, and the patient's blood now agglutinated B. typhosus in dilutions as high as 1 in 3200. The temperature came down after three weeks.

These two are certainly the most interesting of the series. In both there is a mild illness, paratyphoid, followed after an interval by a moderately severe attack of typhoid. The agglutination titres alter with the two infections exactly as one would expect them to. In the first case both organisms are demonstrated, one during each illness. That B. typhosus was found in the stools while the patient was incubating typhoid fever is quite in accordance with the work of Conradi,[10] who found that the typhoid bacillus is very frequently found in the fæces several days before the temperature begins to rise. Had these two cases not been investigated very fully the second illness would have been put down as a relapse of typhoid. Had either of them been examined by differential agglutinations only just at the commencement of the typhoid attack, when B. typhosus was circulating in the blood, but the typhoid agglutinins had not yet developed, puzzling results similar to those of Pratt and other writers already quoted would have been obtained. As it was, repeated examinations of the blood and excretions made the nature of the infections quite clear.

These cases also confirm the opinion of the officers of the Royal Army Medical Corps and Indian Medical Service in India that inoculations with a typhoid vaccine confer no immunity to paratyphoid fever, although, be it remembered, their experience applies mostly to the "A" type.

CASE 7.—G, a female aged 13; took ill rather suddenly with vomiting and feverishness. On Nov. 23rd, a fortnight later, she was removed to hospital. Except on the day of admission the temperature was never above normal and convalescence was rapid. On the 29th her blood agglutinated B. paratyphosus B in dilution 1 in 800, and B. typhosus in 1 in 200. Absorption tests proved that all the agglutinins, both for B. paratyphosus B and B. typhosus could be removed by B. paratyphosus B, but that the power of agglutinating B. paratyphosus B was not impaired by treatment with B. typhosus, thus indicating, according to Castellani's law, a genuine paratyphoid infection. However, on one occasion out of many examinations, either Dec. 9th or the 13th, B. typhosus was isolated in fair numbers from the urine.

CASE 8.—H, a male aged 18; took to bed on Oct. 26th, after suffering from malaise and headache for about a week. He was admitted to hospital on Nov. 4th. The temperature subsided in a little over a week after admission. The clinical features of this case were headaches, tenderness and enlargement of the spleen, presence of rose spots on the abdomen, and development of a femoral phlebitis on Nov. 11th. The blood serum of Nov. 28th agglutinated B. paratyphosus B on a dilution of 2500, and B. typhosus in dilution 1 in 320. Absorption with B. paratyphosus B removed all these agglutinins, while absorption with B. typhosus did not appreciably lower the titre for B. paratyphosus B. Nevertheless, on Dec. 8th B. typhosus was isolated from the urine.

These two cases, one must admit, seem at the first glance to confirm the view of those who hold that determination of the titre limits for B. typhosus and B. paratyphosus B is worthless for differentiating between the two infections. The agglutinations point to paratyphoid fever, but the typhoid bacillus is found in the urine during convalescence. I believe the absorption tests settle the question, and show that both ought to be interpreted as genuine cases of paratyphoid fever which have, during their stay in hospital, become "healthy" or "transitory" carriers of the typhoid bacillus—that is, the bacillus for a time inhabits, and multiplies in, the body without producing any clinically recognisable effects or necessarily provoking any distinct immunity response.

There are two possible explanations of these four complex infections. They may have been infected with the typhoid bacillus from the cases with which they were nursed in hospital. All were admitted and treated as typhoid cases along with others in large wards. Their real nature was not made clear for some time after admission. The less probable explanation is that the original source of the epidemic was a carrier of both bacilli, that the majority of the patients fell a prey to the typhoid infection only, others to paratyphoid, while a few underwent double infections either simultaneous or at an interval of time, one bacillus lying latent either altogether or for a period only. Evidence suggested very strongly a water-borne epidemic from a single case of typhoid. This patient's blood twice gave a positive Widal reaction and was examined once in late convalescence for paratyphoid agglutinins in a dilution of 1 in 50 with a negative result. It is unfortunate that a more complete examination was not possible. In any case, whatever the explanation, one cannot help feeling that there can, in the future, be no justification for nursing paratyphoid along with typhoid cases. The two diseases are perfectly distinct, the one on the average a mild disease, the other a serious one, and with the advance of knowledge public health authorities will be expected to keep pace and to take means to avoid exposing to undue risk those entrusted in their care. The difficulty is that the real nature of the infection can be recognised only by the help of bacteriological methods, and unless specially organised this requires time and may mean considerable expense. An ordinary Widal reaction has no value for differentiating; of this series 7 gave during the paratyphoid attack a positive Widal, but a persistently negative or slightly marked Widal reaction in a doubtful case should make one get the blood examined for paratyphoid.

CASE 9.—I, a male aged 7; gradual onset of illness; he was in bed ten days before admission on Oct. 21st. Thereafter there was irregular feverishness for a week or two. A few papules were present on the abdomen, and the spleen was tender and palpable. Examinations of urine and fæces were negative. On Nov. 29th blood serum agglutinated B. paratyphosus B to 1 in 3200, and B. typhosus to 1 in 400. Absorption tests gave results exactly similar to those of Cases 7 and 8.

CASE 10.—J, a female aged 14; took to bed Oct. 26th. She was admitted on Nov. 1st, and was feverish for six days thereafter. The spleen here also was palpable, and a few rose spots were seen on the abdomen. Examinations of excreta were negative. The titre of blood serum on Nov. 23rd for B. paratyphosus B was 1 in 400, and for B. typhosus less than 1 in 100. Absorption results as in last case.

CASE 11.—K, a male aged 19; had a vague illness called "influenza," commencing about Nov. 1st with headache and feverishness, and confining him to bed for nine to ten days. This patient lived in the flat above, and used the same water-closet as the patient in Case 5, and was discovered in the course of investigating the latter case. The fæces and urine were examined twice with negative results. The blood serum on Nov. 25th agglutinated B. paratyphosus B completely in 1 in 400, and B. typhosus partially in 1 in 25. A few days earlier the blood was reported as "negative to the Widal reaction."

Although in these three cases the causative micro-organism was not isolated, one can have no doubt, from the wide differences in the agglutination titres and the results of the absorption tests made in the first two, that they were undoubted instances of paratyphoid infection.

CASE 12.—L, a female aged 12; was a member of the family with which the patient (F) in Case 6 lived. Her blood was examined on Nov. 21st as a contact case and gave a negative result with the Widal test (dilution 1 in 50 with B. typhosus). The earlier patient (F) as stated went home from hospital on Jan. 28th, and was readmitted with typhoid fever on Feb. 11th. The girl (L) turned ill about April 2nd and was admitted on the 10th with an illness closely simulating meningitis for a few days. The temperature subsided about a month after admission. B. typhosus was isolated from her stools on April 28th and May 5th; and as a type of several similar results on April 20th her blood serum agglutinated B. typhosus in a dilution of 1 in 1600, and B. paratyphosus B in a dilution of 1 in 400. Absorption of this serum reduced both titres, but that of the absorbing bacillus in much greater degree.

This girl is the only case in the group where the evidence suggests a simultaneous double infection. Even here a more complete investigation might have shown that the typhoid infection succeeded a mild paratyphoid attack, although as a matter of fact there was nothing clinically pointing to the latter. The considerable interval between the removal of her associate (F) and the onset of her own illness—Feb. 11th to April 2nd—is interesting, and leaves room for speculation as to the mode of infection.

Epidemiology.—If this group of paratyphoid cases, occurring simultaneously with a sharp epidemic of typhoid, is quite independent of the latter, it is certainly a very curious coincidence. That the causative micro-organisms of the two diseases were disseminated from a common source, though a conceivable explanation, we have no evidence to support. Boycott,[3] from his results, inferred that about 3 per cent. of all cases notified in this country as typhoid fever are really infections with paratyphoid fever. Paratyphoid is not unknown in Aberdeen. In 1906–07 there were two small outbreaks involving eight persons, which although not fully investigated bacteriologically, were from the differential agglutinations ranked as paratyphoid fever. Again, in the summer of 1911 a group of six cases, definitely associated with a certain dairy, were judged, again from the agglutinations, to be paratyphoid, and on the excreta of the patients being examined B. paratyphosus B was isolated from the fæces of one of them.

M., a male aged 35, was admitted to hospital on April 29th, 1911 with a history of having been in bed with a mild illness for three weeks, during which time he suffered from diarrhœa. He had no abnormal temperature after admission, but a few typhoidal spots were present on the flanks. The spleen was not perceptibly enlarged. The blood serum of May 15th agglutinated B. paratyphosus B up to 1 in 800, and B. typhosus up to 1 in 200. On May 12th the paratyphoid bacillus was found in the fæces.

During the typhoid epidemic the medical men were very much on the alert for possible cases of the disease, and it has been suggested that the 12 cases of paratyphoid investigated would, being mostly mild in character, either have escaped observation or diagnosis, or, having given positive Widal reactions, have been classed as typhoid infections. In other words, these represented merely the normal incidence

of paratyphoid, but they were brought to light only through the typhoid scare. It is very improbable, however, that so many cases should occur in this way, since the average number of typhoid cases notified per month in Aberdeen is about two. Further, if we exclude Case 2, in which the cardiac disease of the patient quite masked the time of onset of the paratyphoid, and Case 12, in which the patient clearly was secondarily infected, we find that the other ten cases showed their first signs of illness within the period Oct. 11th to Nov. 11th—a fact which very strongly suggests that these cases were infected from a common source. About a third of the genuine typhoid cases had already shown signs of illness before Oct. 11th, the earliest dating from Sept. 22nd. Of the paratyphoid cases 7 lived in one quarter of the town, and 8 got milk from a common dairy, but beyond these points there was no evidence. The facts, however, taken together, lead one to conclude that this was an epidemic within an epidemic, the two being independent.

Symptomatology.—If we exclude the last case, which must be reckoned a double infection, the clinical picture in each was that of a mild or moderately severe attack of typhoid. Nothing was apparent clinically by which the diseases could be distinguished. All were under 26 years of age except 2, these being 38 and 49. The onset in most of them was gradual, in 2 only was it moderately sudden. Headache at the onset was a distinct feature in 6, vomiting in 2. The average period of elevated temperature, estimated as nearly as possible from the first onset, was 23 days. The spleen was sufficiently enlarged to be palpable in 5, doubtfully so in other 2. Pea-soup stools were passed by 4, and typical typhoidal rash was present in 7. Six had more or less of a cough, one a slight hæmorrhage from the bowel, and one an epistaxis, which might have been a coincidence. One suffered from a femoral phlebitis as a sequela, and one showed marked delirium.

Bacteriology.—The five strains of the paratyphoid bacillus isolated from the 12 cases were fully investigated along with the bacillus isolated from the case (M) of 1911. All were coliform, actively motile, Gram-negative bacilli, not liquefying gelatine, and not forming indol in broth in five or ten days. All fermented, with acid and gas formation, glucose, mannite, dulcite, galactose, lævulose, sorbite, arabinose and maltose, but not lactose, saccharose, dextrin, salicin, raffinose, and inulin. In litmus milk all six produced marked alkalinity in from five to ten days. In these respects they behaved exactly like three standard strains of B. paratyphosus B (obtained through Professor George Dean from the Lister Institute). The only detail in which they differed culturally from the standard strains was that in broth, in addition to a uniform turbidity, five strains produced in two or three days a delicate surface pellicle which broke readily and sank to the bottom. One strain (D, from Case 4) did not produce such a pellicle.

Professor F. A. Bainbridge kindly sent me a genuine strain of B. suipestifer for comparison. It has been claimed by Reiner Müller that B. paratyphosus B can be distinguished culturally from B. suipestifer by the appearance in four to five days of secondary papillæ on colonies of the former growing on raffinose agar at 37°C. On agar containing 2 per cent. raffinose all six of my strains showed such papilla formation. The three stock strains showed the same development, strain "C. Savage" in very slight degree. The strain of B. suipestifer in use, however, also formed such papillæ, once very slightly, and a second time very markedly. B. typhosus gave quite a negative result.*

The morphological and cultural characters of these micro-organisms showed that they must either be B. paratyphosus B, B. suipestifer, or B. enteritidis Gaertner. To decide the question, serological methods are necessary.

Immune sera for all six strains were obtained by inoculation of rabbits, and each of these gave practically identical titre limits with the three standard strains of B. paratyphosus B and the strain from which the serum was made. The titre for B. suipestifer was in every case of the five tested considerably lower than for the paratyphoid bacillus, varying from a half to a thirtieth of the latter. In all cases absorption with B. suipestifer removed the agglutinins for that bacillus, but left practically unimpaired those for the standard strains of B. paratyphosus B and for the strains isolated. On the other hand, absorption either with B. paratyphosus B or with any of the strains being investigated removed all the agglutinins for B. suipestifer, as well as those for B. paratyphosus B and the strain tested. Incomplete absorption showed that the reduction of the titres for the latter two proceeded *pari passu*. These facts clearly indicate that these six strains are identical with B. paratyphosus B and quite distinct from B. suipestifer. Five of the immune sera were tested with B. enteritidis Gaertner, and showed a much lower titre for that bacillus than for the paratyphoid bacillus. Absorption tests were here considered unnecessary to complete the proof that these six strains isolated from different patients were genuine paratyphoid B bacilli.

I have to express my indebtedness to Professor Matthew Hay for facilities for making these investigations; to Dr. J. C. G. Ledingham, of the Lister Institute, for kindly advice; to Dr. G. S. Banks, of the City Hospital, for access to the clinical records; and to Dr. J. G. Muterer for giving the use of strains E (Case 5) and A (Case 1) isolated by him.

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Aberdeen.

* In this connexion it may be noted that Penfold (Journal of Hygiene, 1912, vol. xii., pp. 210, 211), who was able to confirm this observation of Reiner Müller in a large series of B. paratyphosus B and B. suipestifer strains, found only two exceptions to the rule. One strain of B. paratyphosus B did not yield papillæ on the raffinose-agar, while one strain of B. suipestifer showed such. Penfold expresses the opinion that the raffinose mutation, while not absolutely specific, is of very great value in the differentiation of B. paratyphosus B from B. suipestifer.

THE INCIDENCE OF STONE IN EGYPT

WITH REMARKS ON A SERIES OF 312 OPERATIONS.

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A POPULAR fallacy is current, especially among Indian authorities, that Egyptian stones are always phosphatic, and therefore soft, friable, and easily crushed, and that they are all secondary to bilharziosis in some part of the urinary tract. In my first 100 cases of operation for stone, however, published in the *Intercolonial Medical Journal of Australasia* for July 20th, 1902, it was observed that though 60 contained phosphates among other constituents there were only ten purely phosphatic stones in the whole series. As a matter of fact, the majority of stones met with in Egypt have a nucleus of uric acid or oxalate of lime, and are originally begun in acid urine. Later, partly from their own irritative effects and partly from their occurrence in a bilharzial infected urinary tract, an alkaline condition of the urine occurs with the precipitation of phosphates, which become deposited on the original nucleus and lead to the rapid enlargement of the stone.

Some of the nuclei contain bilharzia ova (Looss and Ruffer) which were probably lying originally in a broken piece of bilharzial papilloma; and in the early and milder degrees of bilharziosis, before any sepsis has been introduced either from within or without, there is no reason why the urine should not remain acid and the resulting stone be entirely uric acid or oxalate, with perhaps thin layers of phosphates when the irritation it produces is sufficient to give rise to an alkaline urine. The stone will be purely phosphatic only when it has started as a phosphatic concretion on the surface of a bilharzial ulceration or abraded papilloma in any part of the infected urinary tract. In such cases the alkalinity of the urine is practically constant, and a soft, white, friable stone results. Sometimes a white, hard marble-like stone, consisting largely of calcium carbonate, forms under similar conditions. Apart from the rôle played by bilharzia as an originator of stone as just described, we cannot offer any fresh evidence to clear up the vexed question of the cause of the formation of stone in general. The whole country, almost without exception, drinks Nile water,

and though it is true that more cases come from Lower Egypt and the Delta than from Upper Egypt, this can hardly be ascribed to local variations in the water-supply, but rather to the increased frequency of bilharziosis in these districts. On the other hand, there is far more probability of the impregnation of the water with lime salts in the course of the river through Upper Egypt than in the much cultivated agricultural land in the Delta.

The admissions for stone to Kasr-el-Ainy Hospital for the last five years are nearly constant, averaging 130 cases a year; but the admissions for bilharziosis of the urinary system have increased year by year for the same period. Thus the incidence of stone and bilharzia are, to some extent at least, independent of each other, and though in a country where 50 to 70 per cent. of the whole native population show evidences of bilharzia it is difficult to dissociate the two conditions, there must be still some other cause of stone the true nature of which is at present undetermined. It will be interesting to note if, with the very much increased area of land now kept under perennial irrigation to the south of Cairo, bilharziosis and, with it, stone will increase in proportion during the next decade.

The vegetarian habits of the fellaheen, who are the most common victims of stone, probably contribute very largely to the formation of stone; and it is reasonable to suppose that the enormous meals, taken often at very long intervals, overload an already chronically dilated stomach, and the subsequent digestion and absorption must be imperfect, and so lead to the elimination in the urine of incomplete by-products in the urea metabolism and "vegetable salts." These salts occurring in excess in a very acid urine are ever ready to be deposited in the straight tubules or pelvis of the kidney, or in any other part of the urinary system, and become the foundations for a calculus.

The regional distribution of stone.—These remarks are based upon a considerable experience of cases of stone that have passed through my section at Kasr-el-Ainy Hospital during the last 14 years and in private practice; but I am only quoting figures of cases on which I have personally operated and whose future I have been able to follow. They are, however, representative of the various points I wish to emphasise and give a good idea of the general lines of practice adopted for this condition in Egypt. Save in exceptional cases operations for stone are generally considered the perquisite of the assistant surgeon.

Stone in the kidney.—A remarkable feature is at once apparent in considering the regional distribution of stone in Egypt. In these 312 cases there were only five operations for stone in the kidney (1·6 per cent.), and in the last five years, out of 655 admissions for stone to Kasr-el-Ainy there were only 15 in the kidney, or just over 2 per cent. of the total. A comparatively small number of cases give a history of renal colic, though in private patients with a more intelligent appreciation of their symptoms one sees and hears of its occurrence much more frequently. The absence of remark probably means that in the presence of bilharzial troubles of varying degrees of severity a transient pain in the loins is hardly remembered or its significance appreciated. The operations themselves presented no special features, but one case was of sentimental interest as the host had come all the way from Mecca with the returning pilgrims to have his stone removed at Kasr-el-Ainy. He went back delighted, with the offending stone carefully preserved as a charm against dangers on his homeward journey. Similarly, stone in the ureter is very rarely met with, and often then only accidentally discovered as the causal condition of hydronephrosis, though this condition is far more often due to bilharzial obstruction. The one case that ended fatally the following day from shock was an enormous hydronephrosis with several stones impacted in the ureter.

Stone in the male bladder.—By far the greater number of stones are found in the bladder, and in themselves do not present any special peculiarities, varying in size, weight, and composition, and occurring in all sorts of bladders. With the almost universal distribution of bilharzia—Ferguson has found it in more than 60 per cent. of a long consecutive series of necropsies—it is quite rare to find a stone in a perfectly healthy bladder; indeed, in most cases the classical symptoms of stone are entirely masked by those of bilharziosis. 294 cases of stone in the male bladder were recorded, with an operative mortality of 23 (7·8 per cent.); and as the prognosis of the operation for the removal of stone in the bladder is intimately dependent upon the bilharzial state of the urinary tract it may be well to enumerate briefly the appearances of an advanced case as seen at a necropsy. The more one sees of these severe infections the more the wonder grows, not why such cases die, but rather how they ever live. It must be premised that these severer lesions are the result of a virulent septic inflammation, flourishing on the perfect medium of decomposing urine and soft degenerating tissues resulting from the destructive processes of bilharziosis. Thus the bladder may be enormously thickened and contracted, the mucous membrane ulcerated or largely sown with groups of papillomata or hummocky masses of dense bilharzial tissue. There may be an abraded phosphatic-coated surface irregularly scattered throughout the bladder. The urine is usually foul-smelling, often grey-green in colour, and full of débris of growths, phosphatic masses, blood, and pus. In other cases the viscus may be irregularly pouched by thickened ridges, especially posteriorly, but with a fairly large cavity or nearly filled with ragged degenerating masses. The substance of the mucous membrane is usually thickly infiltrated with yellow-brown grains due to myriads of calcified ova embedded in it. A large, atonic, dilated bladder with thin walls may sometimes be seen, and this is generally associated with extensive bilharzial infiltration of the prostate and the neck of the bladder. The ureters are dilated, often to an extreme degree, twisted, pouched, and kinked, and the mucous membrane infiltrated or ulcerated, with patches of papillomata scattered along its course, and sometimes forming a definite obstruction at the vesical orifice. This enormous dilatation of the ureters goes with a similar dilatation and sepsis of the pelves of the kidney, and the kidneys themselves may be simply bags filled with pus and foul urine. The kidney substance, if it exists, may be thick with abscesses. The kidneys are sometimes seen lying in a bed of pus in the perinephritic tissues, the suppurative process being often prolonged as a septic cellulitis downwards as far as the cavity of the pelvis.

I am not mentioning these facts in extenuation of our results, but simply to support my contention that it is a wonder how many patients live when an operation is performed in such surroundings. Further, one can readily realise the dangers likely to result from any cutting operative procedure that provides an additional prospect of the entrance of infection from without.

The *diagnosis* of stone is not, as a rule, difficult, though its presence may only be accidentally discovered while sounding a bladder with marked bilharziosis; and I have more than once discovered a small stone with the X rays that entirely escaped detection by the sound in a badly affected bladder. Encysted stones become rarer as one's experience increases, and many of the so-called encysted stones are really large stones in a much thickened bladder, which is firmly contracted down on to the stone and cannot be dislodged by the quantity of water under pressure one dare introduce into the bladder. Encysted stone does occur, however, either in a pouch in the anterior wall or posteriorly above the trigone, and can often be felt quite distinctly through the abdominal wall or on bimanual examination. Multiple stones are uncommon, though Dr. W. J. Maloney, formerly resident medical officer, has reported one of my cases in THE LANCET of Nov. 21st, 1908, p. 1517, in which 122 stones, weighing in all 459 grammes, were removed from the bladder; and in the present series 16 faceted stones were removed at one time after the extraction of an impacted stone in the urethra. Similarly stones in pouches behind the enlarged prostate are very rare. Enlarged prostate itself is not common, but its symptoms are not infrequently imitated by bilharzial infiltration of the prostate and neck of the bladder, with which condition a rather large atrophic bladder is often associated.

Treatment.—Lithotrity must always be the operation of choice for stone in the bladder here in Egypt; for not only is it the most satisfactory operation, but it holds out the greatest hope of a favourable result, inasmuch as it minimises the risks of possible further septic infection. Where the ureters and kidneys are so often and so badly affected it is reasonable to suppose that many cases of recovery after lithotrity would likely have proved fatal if any cutting operation had been done. Lithotrity, however, even in a comparatively healthy bladder, has its limitations. It is not a satisfactory operation in children. The preliminary stages

can be quite well carried out; but the stone has to be crushed very small indeed to allow of its evacuation through the tiny catheter demanded by the calibre of the urethra: and several insertions of the catheter and lithotrite may be necessary before the operation is completed. The urethral mucous membrane is so soft that this repeated instrumentation may produce considerable damage to the canal, with the risk of subsequent constriction and even stricture. More than this, a suprapubic lithotomy is so satisfactory in children and may be done without scruple, as one does not expect to find advanced bilharziosis at this age, and in most cases the incision in the bladder can be completely closed without drainage. Bad bilharzial infection of the urethra with destruction of portions of the mucous membrane and fistulæ will sometimes prevent the possibility of lithotrity; but stricture of the urethra from any other cause need not necessarily be a bar to its adoption if preliminary dilatation or urethrotomy be practised.

One is rarely deterred by the size or hardness of the stone from doing lithotrity, for, provided that the bladder can be adequately distended with fluid, crushing may be effected. When a thick bladder is tightly contracted down on a large stone no amount of hydraulic pressure will distend the bladder; nor must it be attempted, as there is very considerable risk of rupturing such a bladder, especially where its walls may have been thinned by the presence and pressure of the stone. Suprapubic lithotomy must be performed in such cases, a second drain being placed in the perineum if there is much posterior pouching of the bladder. Encysted stones are best treated in this way also, though I have on more than one occasion managed to insinuate the blades of the lithotrite into the neck of the pouch and have gradually crushed the stone *in situ*. But it is not good practice. When the urine is filthy and full of débris, and the bladder obviously intensely septic, a perineal section should be done and frequent irrigation carried out in spite of any other risks; but in most cases this drainage is only the beginning of the end, as the case almost invariably comes to a fatal termination from septic kidneys, uræmic diarrhœa, and exhaustion, with extreme emaciation. I invariably use Milton's lithotrite, and I cannot speak too highly of its simplicity and efficiency. One must always use a lithotrite as large as the urethra will carry and do as much as possible at one insertion. Then introduce a full-sized straight evacuating catheter with a large eye and evacuate the fragments slowly and carefully. Milton's evacuating syringe consists simply of a large rubber bulb, with two orifices placed at right angles to each other, one of which fits on to the end of the evacuating catheter, the other grips the neck of a glass bulb into which the fragments fall. There are no valves or taps of any kind, and as it is an instrument of considerable power care must be taken in its use.

During the course of a lithotrity it is wise to palpate the lower part of the abdomen just above the pubes from time to time for subcutaneous emphysema, an infallible sign of a rupture of the bladder. This accident may occur from a false passage through the base of the bladder or elsewhere by the improper passing of a sound catheter or lithotrite during the operation, and calls for an immediate suprapubic incision and exploration of the bladder, followed by appropriate treatment should any tearing really have occurred. To guard against this happening the straight evacuating catheter must be very carefully passed and guided by finger in the perineum, or even rectum in difficult cases, and the lithotrite must be allowed to fall into the bladder by its own weight, being guided along the bends of the urethra *en route*. If the beak cannot be freely rotated in all directions the instrument, whatever it is, is not properly introduced, and, moreover, the stone will not be felt.

In this series of cases there were 204 lithotrities with 9 deaths. In the first 77 cases there were 5 deaths, and two of these were certainly due to lack of experience in much diseased bladders, some tearing of the bladder wall being produced with gangrenous ulceration and septic cellulitis. The others were all from secondary septic bilharzial changes in ureters and kidneys. In the last 127 cases there were 3 deaths; one developed dysentery, probably of bilharzial origin, after the operation, but recovered from that only to die later after an operation for strangulated hernia—hardly a case of death after lithotrity; the second, a hemiplegic patient, developed septic thrombosis of the prostatic veins and pelvic peritonitis; and the third was an old man with an enlarged prostate and retention with overflow of urine and septic kidneys. The largest stone crushed in the series weighed 122 grammes, but there were 2 cases of larger stones in whom the lithotrity could not be completed and the bladder had to be emptied by perineal section. The youngest patient was aged 2. Included in the above also are 6 cases of perineal lithotrity, the lithotrite being introduced through a median incision in the posterior urethra and the stone crushed and subsequently washed out through a large evacuating catheter. One of these, a small boy with a large stone and much distended bladder, died the following day, apparently from shock. At the necropsy no other cause of death could be ascertained. Since October, 1908, spinal anæsthesia by stovaine has been used for all stone operations, except in small children, with very satisfactory results.

Perineal lithotomy.—This operation has been performed in 53 cases; 34 by median lithotomy with 1 death and 19 by the lateral operation with 3 deaths. These operations were done for cases in which it was considered necessary to provide drainage to the bladder and to allow of its subsequent irrigation. A large tube is inserted into the bladder and the perineal incision tightly sutured, the last stitch going through the tube and fixing it in place. Messrs. Down Bros. have made me a special forceps for introducing a tube into a deep cavity which I have found very useful in these cases. Essentially it consists of two hollowed blades joined by an obtuse-angled elbow to long scissors handles, the joint being at the second angle between the elbow and the handles. The tube is held in the grooved blades and thus introduced into the cavity and left in place as the blades are slightly opened and the instrument withdrawn. A smaller tube is attached by a glass junction and drainage maintained for as long as necessary, with free irrigation with permanganate, oxygen water, or chinosol. With the exception of one case of a very old man, who died from heart failure, the other fatalities were due to septic ureters and kidneys, one as long as five weeks after operation with a large pyonephrosis. In children median lithotomy was formerly practised, but has now been entirely replaced by the suprapubic operation. These perineal operations have sometimes been done as a demonstration to students who may after graduation be posted to certain districts where they cannot attempt lithotrity owing to want of practice or the lack of suitable instruments.

Suprapubic lithotomy.—Twenty-eight cases have been done by this method with six deaths. This operation is reserved for children, very large stones and encysted stones; and although many of the operations are comparatively easy, I have never been able to convince myself that suprapubic cystotomy is the simple operation the text-books would have one believe. The peritoneal reflection in the front of the bladder is often very low in our cases, frequently requiring to be carefully peeled off from the back of the symphysis, and even when the bladder is well distended—a feat not always easy of accomplishment in an Egyptian bladder—the dilated bladder forms a dome behind a veil of peritoneum stretched over the front of it. It is therefore very necessary to thoroughly expose the parts concerned in the operation and to be quite sure the peritoneal reflection is well out of the way before the incision is made into the bladder. Further, the firmly contracted thickened bladder lies deep in the pelvis, and unless the stone is a very large one, may not be easily reached and opened. If the stone is large, except in a very roomy bladder, no attempt should be made to deliver it whole, but it should be broken with lithotrite, lithoclast, or even chisel and hammer, and removed in pieces to prevent tearing and bruising of an already diseased and degenerated bladder wall. In children and in other cases where the bladder is fairly healthy an attempt should be made to completely close the bladder with sutures, with or without a catheter fixed in the urethra, a small drainage-tube being passed down to the sutured bladder and the rest of the suprapubic incision closed. In children I prefer to leave them without any catheter, but in adults a soft catheter is usually inserted and retained in position by means of a special catheter clip (made to my directions by the Holborn Surgical Instrument Company). This consists of two flattened rings of German silver capable of being altered in size by a sliding piece, which may be fixed at any point by a screw. The larger of these rings encircles the penis just behind the glans and is lightly

clipped in position. The smaller ring grips the catheter just after it emerges from the meatus. The two rings are connected together by a thin bar, shaped to the outline of the glans, and when both screws are adjusted the catheter is firmly fixed and does not come out. In one case of urinary fistula the catheter was retained by this appliance without moving for nearly a month.

If the condition of the bladder will not allow the suturing of the wound entirely it must be reduced in size by sutures and a tube stitched into its upper part; but on no account must the bladder wall be stitched to the skin or the deeper structures or a fistula will inevitably result and persist. The dead space between the bladder and the muscles must be carefully packed to prevent leakage into the cellular space around the bladder. A smaller tube is fitted on to the tube in the bladder, and drainage takes place entirely by syphon action, without the intervention of any other special drainage apparatus whatever. Thorough irrigation may be carried out as necessary through a soft catheter passed per urethram.

Of the six deaths in this series one was from peritonitis from an accidental opening of the peritoneum and infection from a particularly filthy bladder; another died from peritonitis from sloughing of the bladder walls, the bladder being almost completely gangrenous; another of poisoning from opium which was unwisely given to check an attack of diarrhœa after the operation. Post mortem double pyonephrosis was present and advanced bilharzial changes generally. One small boy died from uræmia with large pale kidneys, and another adult from pyonephrosis. The last case was in an emaciated man with a stone weighing 240 grammes lying fixed in a large saccule in the anterior wall of the bladder. The stone was removed entire, and a week later the patient developed very severe dysenteric diarrhœa from which he slowly recovered, only to melt away and die from exhaustion with all the symptoms of a septic bilharzial urinary tract. Post mortem he was found to have a very bad bladder, dilated septic ureters, and pyonephrosis. One of my most recent cases was a boy, aged 12, with a stone of 150 grammes with a very irregular oxalate surface, but in a healthy bladder which I was able to stitch up without drainage. He passed his own urine the same evening and made a perfect recovery, and was out of bed in seven days. With him, as with all these cases, he was sat up as soon as possible after operation and encouraged to pass his urine naturally from the first.

Stone in the female bladder.—When the female bladder is attacked by bilharzia it is usually very severely affected and almost hopeless to relieve. Large stones frequently form in such bladders and they rarely come under observation till they have almost completely filled the bladder and project as a hard mass through the anterior vaginal wall. The mere fact of an operation being necessary in such a bladder augurs a bad prognosis. Nine operations were performed in these circumstances with four deaths. Four of these were done by the suprapubic route with two deaths, both from the usual bilharzial sepsis. Three stones were removed by vaginal lithotomy, and the fistulæ subsequently closed with good results. One of these stones had obviously formed on the sutures inserted at an operation for vesico-vaginal fistula. In two cases the urethra was dilated and the stones removed. One of these patients died, a woman pregnant seven months with terrible urinary sepsis and a stone of 65 grammes. Micturition was so difficult and painful that something had to be done to relieve her. She aborted the next day and died a week later with advanced septic ureters and kidneys.

Stone in the urethra.—Thirteen cases were operated on, but many more were admitted for operation. On careful examination these turned out to be bilharzial urethra, the grating of a sound against a roughened patch or orifice of a fistula much resembling the touch of a stone impacted in a pouch off the urethra. Our principles of practice for urethral stone, which is always more or less impacted, is, under stovaine, to push it back with a sound or the beak of a lithotrite into the bladder and there crush it. This applies to stones behind the penile urethra. If the stone will not move an incision must be made into the canal in the perineum and the stone caught with urethral forceps and removed. An incision is never made into the penile urethra if it can possibly be avoided as fistula is almost sure to follow and prove very troublesome to close. Our only success in such penile fistulæ has been by putting a tube into the bladder as far back in the perineum as possible and draining off all the urine by this route, and then to do a plastic operation on the penile fistula over a straight piece of catheter, which is left in till the wound is firmly healed. The small fistula left in the perineum soon heals after the tube has been withdrawn. If the stone is at or near the meatus it is easily removed by enlarging the meatus and extracting with forceps, and the forceps are also used in the extraction of all stones in the anterior part of the penile urethra. Finally, the bladder must always be sounded after the removal of an impacted stone in the urethra. In one such case I removed 16 stones from the bladder.

Cairo.

THE BLACK (PIGMENTED) APPENDIX.

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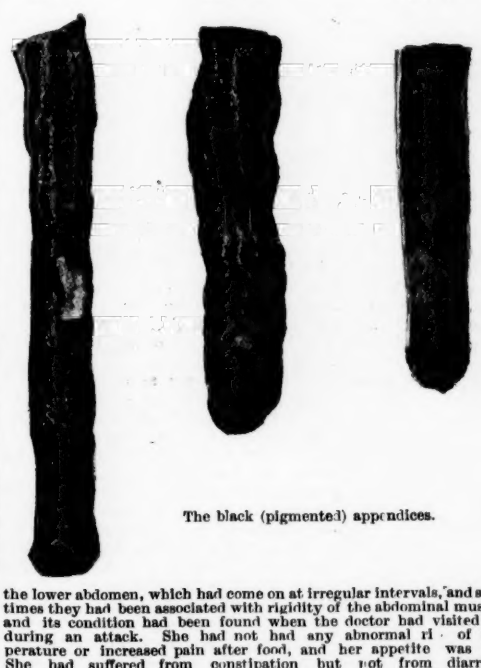
ALTHOUGH varying degrees of pigmentation have been described affecting the mucous membrane of the digestive tract, I have not met anywhere with a description of its presence to an extent equal to that found in the cases described here with one exception. Some years ago Dr. G. Newton Pitt[1] described and illustrated a specimen of pigmentation of the large intestine which he had found in the post-mortem room. The darker parts of the coloured illustration which he gives resemble very closely the appearance of the mucous membrane in one of the cases described below (No. 3), and probably extended into the appendix, although this is not shown. The pigmentation in that case was due to deposit of lead sulphide, and affected the whole of the large bowel from the ileo-cæcal valve down to the anus. The patient was a man aged 45, a worker in lead, who had suffered from lead colic. Some of the most eminent pathologists of the present day assure me that they have not met with anything like this extent of pigmentation in their investigations. The cases were as follows:—

CASE 1.—A lady, aged 32, for whom operation was done on March 31st, 1912, and whom I saw with Mr. C. H. Badcock. She had been an invalid for three years and a half with a condition to which the term "colitis" had been applied. She had suffered from attacks of pain in the lower abdomen, which had come on at irregular intervals, and sometimes they had been associated with rigidity of the abdominal muscles, and its condition had been found when the doctor had visited her during an attack. She had not had any abnormal rise of temperature or increased pain after food, and her appetite was fair. She had suffered from constipation but not from diarrhœa. Nothing abnormal could be found on examination. The appendix

FIG. 1. FIG. 2. FIG. 3.



The black (pigmented) appendices.

[1] Transactions of the Pathological Society, vol. xlii., 1891, p. 109.

which was 5 inches in length, was pelvic in position, described a hair pin bend about its middle, being fixed in this position by a shortened meso-appendix. There was no concretion, and little change was apparent in its walls beyond moderate submucous fibrosis, but the whole of the mucous membrane was of deep brown-bluish mottled appearance, which ceased abruptly at the line of section. (Fig. 1.)

CASE 2.—A woman, aged 30, was sent to me by Dr. T. S. Rippon on March 16th, 1912, with a complaint of pains in the right side. She had suffered for a period of three years. The pain was sometimes sharp and sometimes dull and aching. It came on every day in the same place, low down in the right side, and had been worse since Christmas. It was sometimes worse after extra walking, but occasionally came on when she was quiet in bed. She got tired, but was never sick. She had suffered from constipation for years. Pressure of the hand over the part would relieve it. The periods were regular, and she had no increase of pain at these times. Nothing abnormal could be found on examination. This patient was admitted to St. Thomas's Hospital, where the appendix was removed on April 3rd, 1912. It was about 3 inches in length, and contained some soft fæcal material. The mucous membrane was black, almost slimy in appearance, resembling the back of a black slug. There was a moderate amount of submucous fibrosis, but the evidences of previous inflammation were slight. (Fig. 2.) The other structures in the neighbourhood were normal.

CASE 3.—A woman, aged 43, seen with Dr. W. Ecklin on June 28th, and her appendix was removed in St. Thomas's Hospital on July 5th, 1912. I had performed the operation of nephropexy on her right kidney eight years before. The result of that operation had been very satisfactory, but she has an abnormally thin abdominal wall, so that it was still necessary to wear a bandage when going about. About June, 1911, Dr. Ecklin attended her for an attack of appendicitis of moderate severity, and a similar attack a fortnight before we met was followed by a very tender swelling in the right iliac fossa. She now went about the house supporting the right lower abdomen with her hand. There was complaint of occasional pain in this part and much tenderness about 2 inches above Poupart's ligament under the right rectus Nothing abnormal could be felt on examination. The tongue was clean and bowels acting. She had taken medicine containing iron as a tonic under the direction of her medical attendant, but no patent medicine. The appendix was 2½ inches in length. The capsules of two apple pips were found in it. The mucous membrane was pigmented throughout, but there was little change in the walls. Her cæcum was large and loosely attached; it was also of a somewhat dark colour.

Some months later Dr. Ecklin wrote: "Before the operation the patient had been taking for some time the compound syrup of the hypophosphites, containing ¾ gr. ferri hypophos. in each dose, for neuralgia of the occipital and trigeminal nerves. She has been a different woman since the operation, and now that she has her winter cough, can give vent to it without putting her hand over the appendix region."

CASE 4 was that of a lady who was sent to me by Mr. H. W. Sexton. She was about 48 years of age, and had been in fair health until about two years before when she began to suffer from occasional pains in the lower abdomen, which came on without any apparent reason but did not prevent her getting about. In June and September, 1912, she had definite attacks of appendicitis, and in a third attack, three weeks before I saw her, she had been under the care of Mr. Sexton. On this occasion there had been a definite swelling in the iliac fossa, with a temperature of 102·6° F. There was no history of the taking of any medicine containing iron and she had not taken any patent medicine. Examination showed nothing abnormal. The appendix, which was removed on March 4th, measured 4 inches in length, was very adherent to the right side of the uterus and difficult to separate, the distal tapering portion being "shelled out." On section the distal half was almost obliterated, there being extensive fibrosis, with contraction of this part. The proximal third of the mucous lining was of a brownish-black colour, sharply defined by the line of section of appendix, gradually shading off beyond where there was cicatricial change following destruction of the mucous membrane.

The appendices were sent to Mr. Shattock, who had water-colour sketches made of three of them, examined sections microscopically, and sent them to the chemical department of the hospital for analysis. The illustrations accompanying this contribution reproduce the general appearance of the appendices, but do not show the brownish appearance of the lighter areas. Microscopical examination showed the deposit of pigment in the mucous membrane, both in and between the cells. Chemical analysis by Dr. Le Sueur showed that the pigmentation was produced by a deposit of iron, the exact combination not being defined owing to the small quantity of material available.

Mr. C. M. Page has kindly given me some references to papers by German investigators. The conclusions to which Simon [2] came were that in the series of specimens examined by himself, pigmentation was found in the mucous membrane, after inflammation, in 5 out of 43 removed by operation; in 1 out of 34 removed at necropsies. In 8 out of the 77 there was some pigmentation where the appendix was normal. It was found more frequently in lymphatics, perinodular capsule, and in the muscle after death than when the appendix had been removed by operation. In many the deposit of pigment was only found microscopically. He concludes (1) that the pigment had an iron reaction in all instances, except when found in the smooth muscle; (2) that the pigment was hæmatogenous in origin; (3) although some pigmentation occurs in normal cases, inflammatory or congestive processes are important causative factors; and (4) the pigmentation is not caused by an absorption of blood or bile from the intestinal canal, although this has been shown to occur in the newly-born pup. Schmidt [3] found pigment giving an iron reaction both in the tonsils and in the appendix in connexion with broken-down red cells, and concluded that "tonsils, mucous membrane, and submucous tissues of the appendix exerted normally, and in an increased degree pathologically, a hæmolytic function, in a similar way to the spleen and the marrow." Aschoff [4] is of the opinion that in tonsil and appendix trauma as well, hæmolysis is the cause of the pigmentation. Winkler [5] considers that repeated inflammation sometimes causes pigmentation, although it may also be seen where there is no evidence of any other pathological condition. He also says that pigmentation (visible to the naked eye) in varying degrees is found in the mucous membrane of the ileum and cæcum. He has seen marked pigmentation in tuberculosis of the intestine. All these writers agree that the pigmentation is due to a deposit containing iron, and this was found in the appendices examined by Dr. Le Sueur, who excluded the presence of mercury, bismuth, and lead.

The pigmentation was deep and most extensive in all, evidently going for an indefinite distance into the bowel, as is shown by the line of section in each, and by the dark colour of the adjacent cæcum, which was rather thin-walled in Case 3. Its deposit to such an extent suggests that it was due to absorption from the contents of the large intestine, in a manner similar to that of the deposit of lead in the lead worker before mentioned. There is, no doubt, a good deal of iron in the contents of the large bowel, but here there must have been more than usual and that for a long period. Had such a condition been likely to occur from the use of iron given in the form of medicine, our post-mortem records must have described it long ago. These cases are the only ones in which I have found such a curious condition (for it has no clinical significance) in a long series of operation cases. I can but think that it may be due to excess of iron in the flour which is put out from the roller-mills, the influence of which on appendicular constipation, the formation of some concretions, and when in a coarse form the direct production of appendicitis is difficult to estimate.

Harley-street, W.

[2] Simon: Uber Pigmentierung in Darm mit besonderer Berücksichtigung des Wurmfortsatzes. Frankfurter Zeitschrift fur Pathologie, Band iii., 1909.

[3] Verhandlungen der Deutschen Pathologischen Gesellschaft, Dresden, 1907.

[4] Ibid.

[5] Die Erkrankungen des Blinddarmhanges, 1910.

PROCIDENTIA OF THE UTERUS AND RECTUM AT THE AGE OF 27 YEARS,

WITH REMARKS ON THE TREATMENT.

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THE patient was admitted to hospital on Dec. 8th, 1908. She stated that she had been troubled with the prolapse of the bowel since childhood, and that at times it caused much pain and bled freely. Before her marriage there had been some trouble with the falling of the womb, for which she had worn a ring. There had been one confinement 13 months previously; the labour was difficult, and since then her symptoms had been aggravated, the womb coming down whenever she walked.

On admission it was found that on standing up and straining slightly several inches of the rectum could be extruded as a large sausage-shaped mass, and at the same time the vaginal walls and the cervix descended outside the vulva. On reducing the rectum the anus was very patulous, and there was little power of contraction of the sphincter. The cervix was fissured on the right side. The perineum was in good condition.

On Dec. 19th the abdomen was opened in the middle line and the loose pelvic colon was drawn up until it descended vertically to the anus. By firmly retracting the abdominal wall to the left it was possible to secure the rectum in the iliac fossa after the method advocated by Ball. The peritoneum was incised, a series of sutures were inserted between the muscle and the longitudinal band of the bowel, and the edges of the peritoneum were stitched to the rectum.

On drawing the uterus up from the pelvis it reached almost to the umbilicus. Fixation was performed by a series of buried silkworm-gut sutures passed through the anterior wall of the uterus and the aponeurosis.

After the operation the patient was completely relieved of her trouble. Towards the end of 1911 she became pregnant for the second time, and was delivered in September, 1912. The labour was normal, and came on about three weeks before the expected date. When I saw her in March, 1913, she was complaining of some backache, and stated that on coughing she felt the womb come down, but during the last three months this had ceased to occur, and on examination the fundus of the uterus could be felt about an inch below the umbilicus. The cervix was in good position fully 2½ inches from the vulva. There was, however, a slight cystocele.

The association of procidentia recti with procidentia uteri of a most pronounced degree is, so far as my experience goes, a most unusual occurrence, so much so that I think it must be regarded as a coincidence, for if the two conditions were due to the same underlying cause we should often find them associated, which is not the case.

A common cause of prolapse in the infant in the absence of rectal polypus is diarrhœa associated with malnutrition and wasting with a general loss of tone in the tissues; the trouble is usually easily cured by improving the health and preventing the prolapse from taking place, but from time to time one meets with an obstinate case in which, in spite of treatment, the bowel continues to protrude; and if not remedied may persist into adult life. That this is so is evidenced by the history of these patients. I have met with four of these severe cases of procidentia in women varying in age from 27 to 50 years in all of whom the trouble had been present from childhood. These inveterate cases in children are quite easily cured by operative measures. Linear cauterisation is of doubtful utility, and I have seen recurrence of the trouble follow, but I have never known failure after excising a good strip of the mucous membrane. The method I employ is to draw down the prolapse to the full extent, place a tenaculum forceps on the apex of the inverted rectum and another at the junction of the mucous membrane and the skin, both on the anterior aspect of the bowel, and to excise a large lenticular area of the mucous membrane and close the wound with a continuous catgut suture; the bowel is then returned, and heals in a few days, care being taken not to allow it to again prolapse during the process of healing.

In the cases to which I have referred in the adult the whole rectum was inverted to the extent of from 5 to 8 inches. Three of these cases were treated by excision of the whole mass in the following manner. The bowel was incised all round above the level of the sphincters and the peritoneum opened, the vessels in the mesorectum were secured, and all the slack bowel drawn down and removed, the peritoneum being sutured to the wall of the rectum and the cut edge of the latter to the anal edge of the mucous membrane. The results of this procedure have been most satisfactory, and the patients have regained the control of the overstretched sphincter. The fourth case is the one now recorded in which rectopexy was performed. With regard to the choice of operation, I must admit a preference for complete excision, as I think it is a more certain cure, and the risk does not appear to be greater, although it is a more formidable procedure.

With regard to the much-debated question of the best method of curing prolapse of the uterus, ventral fixation is undoubtedly of great value in dealing with these severe cases. The operation is considered not to be sufficient by itself to produce a permanent cure, but that it is desirable to supplement it by colpoperineorrhaphy. That the latter gives additional security by supporting the parts from below cannot be denied, and I usually employ both procedures. In the case recorded above, fixation appears to have effected a cure; for a short period after her confinement there was a tendency to prolapse, but during the last few months this tendency has completely disappeared in spite of having an unusually large and heavy infant to carry about. This may be explained by the fact that practically the whole of the anterior surface of the uterus was fixed to the abdominal wall. In performing the operation I was careful to limit the sutures to the anterior uterine wall, so that should a subsequent pregnancy occur free expansion of the fundus and posterior wall could take place.

Wimpole-street, W.

SURGICAL TUBERCULOSIS IN CHILDREN, WITH SUGGESTIONS AS TO A METHOD OF TREATMENT.[1]

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A Review of the Methods and Results of the Treatment of Surgical Tuberculosis.

Definition.—By "surgical tuberculosis" is meant tuberculous disease of bones, joints, glands, and skin. Other rare manifestations of the disease are met with in children, affecting the kidneys and bladder.

Age.—It appears to me that in this connexion we should regard the age of childhood as extending to the fifteenth year, because that is the time when the active growth of bone ceases and its extreme liability to tuberculous infection diminishes. Certainly, up to the age of 15 years and sometimes for a year longer bone retains the characteristics of early life and its reaction to tuberculous infection.

Relative frequency of surgical tuberculosis.—In 1902 I obtained returns from four Children's Hospitals in London, and I found that during the year 1901, 2040 children were admitted to these hospitals for all causes, and of them no less than 218, or over 10 per cent., were affected with tuberculosis of the bones, joints, glands, and skin. Of them 115 were females and 103 males. The average age of the patient was 5 years and 8 months. Ninety children had affections of the joints, 64 had the bones affected, or 154 of the 218; 45 had tuberculous glands, 10 had tuberculosis of the skin, and 9 had other forms of surgical tuberculosis. The minimum stay in hospital was 5, and the maximum 76, days, or an average of nearly six weeks.

Results of treatment, which was largely operative, in urban hospitals.—On these 218 patients 415 operations were done—that is, nearly two operations on each patient. In one case it is recorded that a child was operated on 18 times, in another 12, in another 11; and in one instance I met with in a surgical clinic in Germany in the year 1888, a child had been operated on 35 times, and was apparently as far off cure as ever.

As a result of all this suffering of the children and expenditure of time and labour by the surgeons only 68 of the 218, or 31·2 per cent., were said to be cured; 128, or 58·6 per cent., were relieved—and relief is no cure in tuberculosis, since half cures are worse than none at all. In 13 cases the result was doubtful or the condition of the patient unchanged, and nine patients are known to have died in hospital.

Results so disappointing as these led me to reconsider the whole question, and in 1903[2] I expressed the views that—1. Urban hospitals are not suitable places for the treatment of tuberculous children. 2. Operation as a routine treatment has failed. 3. Other methods of treatment must be found. 4. Treatment conducted in urban hospitals is wasteful and dangerous: wasteful because the financial resources of the hospital are not used to the best advantage, considering the results attained; and dangerous because such children are often sent from the hospital with tuberculous discharges, which are a cause of dissemination of the disease amongst those around them.

Contrast of the urban and extra-urban hospital treatment.—Owing to the position which I have been fortunate enough to occupy since 1900 as consulting surgeon to the Hip Hospital at Sevenoaks, I have been enabled to compare the results of that hospital, small though it is, with those at the urban children's hospitals. Taking the cases in 1901, I obtained the following statistics. I must, however, premise that

[1] The statements in this paper, much of which served as a Memorandum presented to the Departmental Committee on Tuberculosis, are based upon the results of investigations made by the author, and set forth in detail in the following articles, some of which have been sent to the chairman and secretary of the committee:—The Urban Hospital Treatment of External or Surgical Tuberculosis, Brit. Med. Jour., Feb. 21st, 1903; Is the Urban Hospital Treatment of External or Surgical Tuberculosis Justifiable? The Practitioner, September, 1903; The Treatment of External or Surgical Tuberculosis in the Country, Brit. Med. Jour., Nov. 19th, 1904; Tuberculous Cripples, by A. H. Tubby, in Kelynack's "Tuberculosis in Infancy and Childhood," London, Baillière, Tindall, and Cox, 1908, p. 188; The Indications for Surgical Interference in the Treatment of Tuberculous Joint Disease in Children, with Remarks as to After-results, Proceedings of the Royal Society of Medicine, 1912, and THE LANCET, Jan. 6th, 1912.

[2] Loc. cit.

many of the cases which were under treatment at Sevenoaks during that year, as in previous and subsequent years, had been sent from London after operative treatment had been tried and failed, and thus the country hospital has not had a fair choice of cases—i.e., of what may be termed "early" cases.

The Sevenoaks statistics were as follows: 42 cases were under treatment in one year, the average age of the children was a little over 6 years, 30 had joint disease, in 10 the bones of the spine were affected, and 2 suffered from enlarged glands. The average duration of stay in hospital was 10½ months and the total number of operations was three. The results of treatment showed 14 cures, 24 patients were relieved, and many cases were progressing satisfactorily and promised thoroughly well. Three were discharged as incurable and one died from tuberculous disease of the kidney.

Contrasting these statistics with those obtained from the London hospitals, we find that the duration of stay in the country hospital was 45 weeks, as compared with 26 weeks in London; the proportion of cures was 33 per cent., as compared with 31 per cent. in London; the deaths are under 2 per cent., as compared with 4 per cent. in London; the percentage of operations in London as compared with those in the country were as 19 to 0·07, or nearly 30 times more. Incidentally, I may mention that so successful has the conservative and climatic treatment proved at Sevenoaks that three patients, who had been under treatment there for hip-joint disease, subsequently enlisted and served with the infantry throughout the South African war.

Lest an erroneous impression should be given by the statements which I have made, I should like to say that I am not prepared to aver that operation is entirely avoidable, even if the climatic treatment of tuberculosis is carried out from the first in the country or at the seaside. But I do say *explicitly* that, if climatic and conservative methods are adopted from the first, the necessity for operation is enormously diminished and the final results are better.

Causes of the change in surgical opinion in the treatment of surgical tuberculosis.—During the last decade the conception of this disease has been undergoing a great change. Whereas formerly the affection was regarded simply as a local disease, to be treated as such, experts now look upon it as a loss of resistance to the tubercle bacilli, manifesting itself as an inflammation and degeneration of one or more bones and joints; or, to put the matter in another way, the idea from, say, 1880 to 1902 of the nature of the affection was that the joint was the head and forefront of the affection, and the general condition was a secondary and superficial matter, being merely a sequela of the joint or bone disease. The present idea, which is supported by the great majority of experts, is that the general condition of health and the power to resist are all-important and the local affection will recover if the health is improved and the resistance is increased. Whilst these remarks are true in the case of adults, they are much more apposite in dealing with the children. If we contrast the reaction of adults and children to tuberculous affections, we observe in the latter that the local disease does not become circumscribed so readily as in adults by the natural processes. C. F. Painter,[3] of Boston, says: "This conclusion is apparently antagonistic to the fact that tuberculosis tends to become more spontaneously arrested in children than in adults. Nevertheless in children, when an operation is performed, the wider vascular and cellular spaces are opened with the knife and chisel, and dissemination of infection into new and unguarded localities takes place." In fact, whilst in adults the healing of tuberculosis is accompanied by the formation of a barrier of dense fibrous tissue, the young and rapidly growing tissues of children do not take on this limiting action to anything like the same extent. It follows, then, that the *fundamental method of treatment* in a child must be one which increases the power of general resistance to the disease.

Factors involved in the improved treatment of tuberculosis of childhood.—The factors in the improved treatment of tuberculous disease in children are four in number: (1) the wide recognition of the beneficial effects of climatic treatment; (2) the employment of Roentgen rays in diagnosis and occasionally in treatment; (3) the improved use of tuberculins, and the estimation of methods designed to check and control their action; and (4) the better education of surgeons in the use of supporting apparatus, and the greater ingenuity which is constantly being displayed in the invention of new apparatus or in modifying old ones to meet various conditions of deformity.

Climatic treatment: what it is.—By the term "climatic treatment" is meant the treatment of "surgical tuberculosis" in children either at the seaside or in the country. Climatic treatment is open-air treatment in fresh air with as much sunshine as possible; and at present I regard it as the best means we have of combating the disease.

I have already referred to this matter and contrasted the results of urban and extra-urban treatment in my statistics gathered in 1902; and now I pass on to more recent statistics gathered from foreign sources.

J. W. Sever[4] has given us comparative statistics on these points. 101 cases of disease of the ankle and tarsus were operated upon in city hospitals, involving 45 excisions of the astralagus, 14 removals of the lower end of the fibula, and 11 removals of the lower end of the tibia. Good movement of the part followed in 29, slight in 22, none in 47. In only 7 there was no subsequent deformity. In 65 thickening remained about the malleoli; in 29 some definite distortion of the foot followed. The average duration of the disease from its onset, in the operative cases, until treatment was discontinued was 19·8 months—and of treatment itself 10·1 months.

For comparison, results in 88 non-operative cases treated by the open-air method are tabulated. Motion was good in 32, slight in 23, and none in 33. Deformity was entirely absent in 4, thickening was present in 63, and distortion was present in 21. The average duration of disease until the cessation of treatment was 16·1 months in 99 cases; the average duration of treatment itself was 6·8 months, giving an average in favour of the non-operative series of 3·3 months from the beginning of the treatment until it was no longer necessary. The figures show that "there was a distinct gain in time, also in the function and lack of deformity of the foot in the non-operative series."

In the United States of America so widely has the principle of the climatic and conservative methods been recognised that a country hospital was established by the city of New York in 1900, in the State of Pennsylvania, by the generosity of the late Mr. Widener in 1904, and I note that a further sum of £400,000, or $2,000,000, has been given by one of the same family to support an extension of the work. The States of Massachusetts, Nebraska, Ohio, and Minnesota are proceeding on the same lines. In the statistics of the New York State Country Hospital I find that from its establishment to 1910 there have been 197 patients treated; they remained in the hospital on an average for four years, and the results are that 55, or 36·42 per cent., of the children were thoroughly cured, 85, or 56·9 per cent., were improved, 7 were found to be unsuitable for further treatment, 1 was removed by the parents, 3 died from acute illness other than tuberculosis, and the remainder are still in hospital. These results are typical of other country hospitals.

In England private effort has done a certain amount, and we have amongst others the Treloar Hospital at Alton, the Royal Sea-Bathing Hospital at Margate, the Liverpool Country Hospital at Heswall, and many convalescent homes. These, however, are totally insufficient to grapple with this pressing problem; and those who are keenly interested earnestly hope that means will be found of effectually dealing with the matter. If they are, I am convinced that we shall obtain results in this country which are second to none.

When I had the honour of opening the discussion in December, 1911, at the Children's Section of the Royal Society of Medicine on the Indications for Surgical Interference in the Treatment of Tuberculous Joint Disease in Children, with Remarks as to the After-results, it was found in the discussion that the opinions of the experts present were unanimous in concluding that climatic and conservative treatment is better than aggressive and operative measures.

The diagnostic use and therapeutic value of X rays.—The X rays are invaluable, because by employing them, from the first, we are able to see the beginnings of the disease, we can watch its progress, note the effects of treatment, and check and regulate our methods; also, without doubt, in some resistant forms of tubercle, such as synovitis and the early stage of enlarged glands, the use of X rays has been

[3] American Journal of Orthopedic Surgery, January, 1905, p. 26.

[4] Journal of the American Medical Association, Dec. 16th, 1910, pp. 2128-33.

instrumental in checking the disease. I venture to suggest that a certain portion of any sum allotted for research should be devoted to elucidating and settling on a scientific basis the use of X rays in the diagnosis of tuberculosis, and their value in treatment.

The use of tuberculins.—Much controversy is going on, not only as to which kinds of tuberculin are efficacious and which are not, but also as to the dosage and the after-results. A very wide field of research work is thus open.

The foregoing statement is an attempt to present to the reader the state of affairs as it is to-day and the general trend of expert opinion. It remains to formulate a plan by which the benefits of the new scheme can be used to the greatest advantage in the treatment of tuberculous children; also how existing means can be adapted for the purpose and on what lines new machinery should be provided.

The Leading Principles of a Scheme for Dealing with Surgical Tuberculosis in Children.

It may be asked, What are the leading principles which should guide us? They are: 1. The *registration* of every case of tuberculosis in children throughout the country. The means by which this can be done will be discussed in detail. 2. The treatment of such children by *climatic* methods in suitable *places*. 3. Such places must be *conducted on hospital lines* and not on those of convalescent homes or houses of refuge. The hospital should be under the supervision of medical men who have received special training in this subject. 4. The *admission* to such hospitals must be rendered as easy as possible and without any unnecessary routine; the tender age of a child should be no bar to its admission. 5. The question of the *duration of stay* in hospital is to be decided solely on the curability of the case. 6. The *following up* of all cases, after leaving the hospital, is to be arranged for. 7. The *education* of the child is to be provided for during its stay in hospital. 8. Tuberculous *cripples* to be taught suitable trades. 9. Special provision to be made for *incurable cases*, and precautions taken to prevent their becoming a source of infection to healthy individuals. *Research* must occupy a prominent place, and a scheme is suggested (see below). *Administration* will also be discussed.

Suggestions for Carrying out a Scheme for Dealing with Surgical Tuberculosis in Children.

1. *Registration.*—In order to obtain as complete a register as possible, the coöperation of: (*a*) all those official bodies which now deal with tuberculosis in some form should be secured—such bodies are county councils, sanitary authorities, joint hospital boards, local education authorities, Poor-law authorities, metropolitan asylums boards, the medical officers of health, and Insurance Committees; (*b*) the coöperation of voluntary and philanthropic bodies—some such are the Invalid Children's Aid Association, the Ragged School Union, the Pleasant Sunday Afternoon Association, the voluntary hospitals, and the District Nursing Association.

By their means a complete register will gradually be secured, and by its aid the whole course of the child will be followed from the time it first comes under observation until it is cured or otherwise. The register will be effectual in simplifying the general problem of treatment; it will not only prevent waste and overlapping, but will also be a means of noting the progress which a child makes under systematic treatment. It will also be useful in following up the child after it has left the hospital; and, in fact, it will be the basis of what may be called a "clearing house" between various districts. A carefully compiled register is, in essence, the basis of the whole scheme, which I have the honour to suggest.

2. *The climatic treatment of tuberculous children in suitable places.*—We have already said the essence of successful treatment must be that treatment is carried out in fresh pure air, and the more nearly it is outdoor in character the more likely it is to succeed.

Following the experience gained in England and America, it seems that the ideals to be aimed at are "colonies" of children housed in: (*a*) Inexpensive buildings, preferably of wood with brick foundations, each ward holding not less than 12 and not more than 20 children. Each building should be fully windowed, facing south and west, where the children may be during the day, and sleep at night if the weather is inclement. (*b*) The plan adopted in America of using what are called "shacks"—that is, light structures of wood and glass, just sufficient to prevent undue exposure to cold and wet. (*c*) Tents for general use in the summer months. In fact, a wider use of tents is indicated, as they can be made available for the purpose of segregation and of guarding against the spread of infectious disease. Some patients pass their whole time in tents, and in the winter it is found there is no difficulty in warming a tent.

Each colony will be a separate unit in each administrative area. It may, however, be deemed wise where certain facilities already exist to utilise them. By "certain facilities" I mean the sunny ground-floor rooms of cottage hospitals, with verandahs, also the existing voluntary institutions.

In the early stages of carrying out the scheme I venture to express the opinion that it will be better not to spend money on permanent and expensive brick or stone buildings, for it is quite certain that modification in methods of treatment will be introduced as the result of experience and research. As to the question whether a portion of an adult sanatorium should be utilised for treating tuberculous children, I can see no grave objection to it provided that the children's pavilions are kept apart, that no great expense is incurred in their erection, that the climatic conditions are sound, that they are under skilled surgical supervision, and that the treatment of the children is not made subsidiary to that of the adults.

3. *Such places must be conducted on hospital lines and not on those of convalescent homes and houses of refuge.*—These places and the method of treatment should be under the immediate supervision of a surgeon, who should have been specially trained to the work and have particular knowledge of the subject in all its branches. Such officers are also to be fully acquainted with the modern pathological technique and the methods of clinical research. They should be capable of carrying out details of scientific investigation at the wish and under the guidance of the chief of the central clinical and bacteriological laboratory, which for purpose of convenience should be in the immediate neighbourhood of the central institute (see below). The surgeons must also be skilled radiographers.

It follows from the nature of their duties that the whole of their time should be devoted to them; and the salary to secure the whole time of reliable officers should be about £500 or £600 per annum. There is, however, little or no doubt that we do not possess in this country more than a few men, and certainly a totally inadequate number of them, who are capable of performing these duties. It will therefore be necessary to train such a body of men under surgical experts specially appointed for the purpose. These experts may be either members of the Advisory Committee (see below) or be appointed for training purposes by the advice of the expert members of that body. It is also suggested that the surgical officers of the local institutions should have opportunities from time to time of studying methods carried out abroad; and for this purpose leave with full pay should be granted.

In considering this scheme it is presumed that the treatment of surgical tuberculosis in children will be dealt with either by the Insurance Committees of each county or by the county councils.

4. *Admission to the hospitals.*—Admission to hospitals should be hedged in with as few restrictions as possible. The mere fact of the existence of the disease before the age of 15 years shall be the ground for admission; further, patients shall not be kept waiting for a vacancy. When a case is sent the surgical officer shall decide whether it is curable or not and shall deal with it accordingly. If incurable, special provision shall be made for the case (see below). If curable, the consent of the parents to the stay of the child in hospital for at least one year shall be obtained after they have had the advantages of treatment pointed out to them; and at the beginning of a second year the permission of the parents shall be renewed, and so on as long as necessary. Tender age should be no bar to admission, because, the younger the child is, the more responsive it is to the influences of climatic surroundings, plentiful food, fresh air, and local treatment of the disease.

5 *Duration of stay.*—The duration of stay in hospital of the patient shall be decided only by the progress he makes

and the question of his curability, with the exception of that of attaining the age of 15 years. If the patient, at the age of 15 years, is in the way of cure, special arrangements may be made for his further stay so as to complete it.

6. *Following up cases.*—An essential feature in the ultimate success of climatic and conservative treatment is the *following up* of patients by officers appointed for the purpose after the patients leave the hospital. The object of following up is to ascertain if the patients' surroundings are suitable and if there are signs of relapse; herein is one of the many values of thorough and complete registration of all cases.

7. *Education of children whilst under observation.*—The education of the children shall continue to be under the direction of the Board of Education or of the Education Committee of County Councils, and will probably follow the plan now in work at the Royal National Orthopædic Hospital in London.

8. *Teaching trades to tuberculous cripples.*—As the ultimate objects of the scheme are to convert diseased into healthy individuals, and dependent or partially dependent into independent self-sustaining men and women, who will become useful members of society, it is necessary that each should, if possible, be taught a trade. Special teachers and methods are required for those who, being crippled, cannot be restored to perfect physical conditions, and instruction in particular trades must be provided if they are to be enabled to earn a satisfactory livelihood. The State of Nebraska has recognised these facts, and, since 1905, 450 children have been treated for their diseases, educated, and trained. Among the trades may be mentioned carpentering, leather-work, trunk-making, basket-weaving, printing, photography, metal-work, sewing, and typewriting.

9. *Special provision for incurable cases.*—Here we approach a difficult side of the subject. Some parents will, no doubt, welcome kind and considerate care for their afflicted children provided that they have free access to them, others may object. For the former class of children, a few hospitals for incurables should be provided; for the latter, some of the most pressing indications may be met by arranging for visitors to look after their welfare, to see that their surroundings are as healthy as possible, that they have necessary comforts and medical aid, and to ensure that they are not a source of transmission of infection to others.

Number of beds required.—From the experience gained here and in America it is clear that, when hospitals for tuberculosis are generally provided, the number of cases suitable for admission will be found to be out of all proportion to that which could possibly have been anticipated. Assuming that there are 7,500,000 children under the age of 15 years in this country, provision should at first be made for one bed in 5000. This means there should be 2500 beds. I venture to think, however, that the number of children under the age of 15 years is nearer 10,000,000 than 7,500,000. If we, however, accept 7,500,000 as the number of children under 15 years of age in this country, I believe the number of 2500 beds will be found too small, and I am inclined to think that 4000 beds may be required when the scheme is in full work. Since, however, under efficient treatment the number of children affected with tuberculosis in this country will decrease, this number of 4000 beds will be lessened ultimately.

Prime cost of beds.—From the statistics given in the reports of various institutions in this country and America we find that the highest average prime cost of hospitals is £150 per head, so that to provide for 2500 beds £375,000 may be required, or if 4000 beds are in working order the prime cost may be £600,000. The average prime cost ought not to exceed £100 per bed, and therefore these estimates may be reduced by one-third.

Cost of maintenance.—It is found that the cost of maintenance of an invalid in such an institution averages £65 to £75 per bed per annum, so that the average cost of maintenance of 2500 beds will be £175,000 a year, and of 4000 beds £280,000. I am of opinion, however, that with efficient management the cost of maintenance should not exceed £50 per bed per annum.

Research.

There are at least four problems of immediate urgency. They are: (1) The development of tuberculosis in cattle and other animals, and the means whereby it can be eradicated; (2) methods of entrance of bovine bacilli into human beings, and of infection of human beings by the tubercle bacillus of man, and how prevention can be obtained; (3) the values and uses of the many forms of tuberculins; and (4) the diagnostic uses and therapeutic application of Roentgen rays. These problems can be attacked by a well-organised Central Research Department consisting of (*a*) a clinical laboratory, (*b*) a bacteriological laboratory, (*c*) a veterinary department including an experimental farm, and (*d*) a Roentgen ray department.

(*a*) and (*b*) may be combined under a superintendent or chief research officer, who should have clinical experience and be a bacteriologist with wide experience and sympathies. He should devote his whole time to the work, and a salary of £600 to £800 a year will be found effectual in securing a first-class man. Under him there will be a bacteriologist of the laboratory who will carry out the more scientific bacteriological investigations, whose salary might be placed at £400 a year; and these officers will require the services of three or four assistants at salaries of £200 to £300 per annum. The veterinary department should be under the superintendence of the chief research officer, and he should have under him a skilled veterinary surgeon. The laboratory should be centrally situated and in the immediate neighbourhood of a tuberculosis hospital; probably the best situation will be near London, in a healthy open site. At the laboratory opportunity should be provided for the surgical officers of the local tuberculosis hospitals or clinics to learn details of clinical examination, of pathological research and of bacteriological methods; and these officers will be required to make investigations in the local tuberculosis hospitals, and work under and receive guidance from the chief superintendent of the central research laboratory. The expenses of such a central laboratory for attacking the problem of tuberculosis, in children only, may be estimated at about £7000 to £8000 a year.

The question of scholarships or research students will arise. I venture to think the present time is not ripe to entertain this question, but eventually provision of £1000 to £2000 a year might be made for this purpose, and scholarships offered when the above scheme is in full working order.

Administration of the Scheme.

Presuming that it is the intention of the National Insurance Act to place the administration of the whole question of the treatment of tuberculous children in the hands of a body of experts nominated for that purpose by the authorities, and not in the hands of an existing Government Department, then the suggestions I beg to offer are as follows. The central direction and control of the scheme shall be in the hands of an Advisory Committee, and on the Advisory Committee the following elements shall be represented: (*a*) Registration and statistics; (*b*) finance; (*c*) building and accommodation; (*d*) expert surgical; (*e*) research; and (*f*) educational.

Harley-street, W.

AN ANALYSIS OF 35 CONSECUTIVE CASES OF BRADYCARDIA.

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IT has become evident, through the increasing facilities for analysing the cardiac rhythm afforded by polygraphic and electrocardiographic methods of examination, that under the term "bradycardia" (by which is meant a pulse frequency of 60 beats per minute or under) are embraced pathological conditions owning various causes, producing divergent symptoms, and responding in different ways to treatment.

One of the first attempts at scientifically classifying such bradycardias was that of Mackenzie.[8] He divided them into four classes as follows. 1. Those where all the chambers of the heart participate in the slow action (true bradycardia). 2. Where the slow rate is due to a missed beat, the ventricle having contracted, the resulting wave being too feeble to reach the wrist. 3. Certain cases of nodal rhythm where the auricle has ceased to beat, or does so synchronously with the ventricle. 4. Where the stimulus is blocked between the auricle and ventricle so that the

auricle beats at its normal rhythm, and the ventricle does not respond to the auricle, but pursues an independent and slow rhythm.

Such a division denotes well the types commonly met with. Two qualifying statements, in the light of more recent work however, must be noted. (*a*) With regard to Class 3. These cases are due, as admitted now by Mackenzie, not to a rhythm initiated at the nodal area of the heart, but to auricular fibrillation, in which there is associated a high degree of *a.-v.* block, so that few auricular impulses impinge upon and activate ventricular response. (*b*) With regard to Class 4. Though complete block at the *a.-v.* bundle is in most cases associated with the Stokes-Adams syndrome and a slow, regular, intrinsic ventricular rhythm of frequency 40 or thereabouts (bradycardia), cases have been reported[7 10] in which complete block was certainly present, but the intrinsic ventricular rhythm has lain at 66 or even 70. So that not all cases of heart-block are associated with bradycardia. Despite the latter reservation, however, the above classification still furnishes the most suitable one for the analysis of cases of bradycardia, and will therefore be adopted here.

General observations.—The analysis has been based upon 35 consecutive cases, with the idea in view that thereby the relative type frequencies may represent, to some extent, their probable frequency of incidence in ordinary practice. The cases have been observed exclusively in the larger teaching hospitals and infirmaries. The period of observations was two years. In all cases polygraphic records were gained.

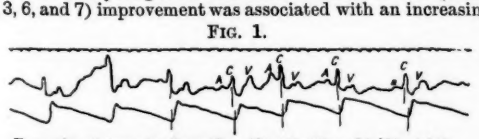
Relative Incidence.

	Cases.	
True bradycardia	7 = 20	per cent.
Missed beat	9 = 25·7	,,
Auricular fibrillation	16 = 45·7	,,
Heart-block. Auricle active	3 = 8·5	,,
Total number of cases	35	

It will be seen that auricular fibrillation is responsible for over one-third of the cases.

Class 1.—The general statement with regard to these cases may be made that none gave rise *per se* to subjective symptoms. In all but two of the cases this slow pulse occurred in the convalescent period following an acute infection. The liability of disturbed sinal rhythm under such conditions has been recorded before.[11] The majority of the cases were young adults and adolescents. In four (Cases 2, 3, 6, and 7) improvement was associated with an increasing pulse frequency up to about 80 per minute. In only one case was there any demonstrable cardiac lesion found. (See Table I.)

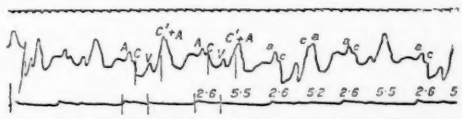
FIG. 1.



Example of true bradycardia. (Case 6, Class 1.) Ventricle responds to every auricular beat (A wave in tracing). Rhythm irregular, so-called sinal arrhythmia.

Class 2.—The dominant type of arrhythmia which was found here was that of coupled beats or bigeminy. The second beat of the couple was not conducted to the wrist, hence the apparent bradycardia. This rhythm was noted in six of the nine cases. In two (Cases 5 and 7) the extrasystoles (responsible for the weaker beats) arose, not regularly but irregularly. One case deserves especial note (Case 4). This was an example of pulsus alternans, in which each alternate ventricular beat was so weak that it failed to reach the wrist. Such phases of alternation were in this case only of short duration. The auricular rhythm in all the cases lay within normal limits—66 to 96. In all the cases but one (Case 3) there was suspected cardial lesion. In none were there any signs of severe loss of cardiac compensation. The periods over which in any given case the bradycardia arose were, as a rule, variable and markedly subject to extrinsic causes, such as exertion, change of posture, or mental excitement. The symptoms associated with the disturbed rhythm were not definite, but some limitation of the cardiac response to effort was usually present. In none of the cases did drugs seem to inhibit the abnormal rhythm, though in two instances (Cases 3 and 6) there was evidence that the exhibition of digitalis tended to give rise to or prolong the abnormal condition. In one of these (Case 3) the patient during labour presented alarming symptoms associated with marked cardiac irregularity, but no tracings were taken which could determine its nature. (See Table II.)

FIG. 2.



Example of bradycardia (Class 2) in which the slow radial pulse, seen in the lower tracing, is due to the fact that there arises in each cycle a ventricular extrasystole (marked C) which occurs synchronously with the next normally recurring auricular beat. This combined beating of auricle and ventricle produces a large wave (x) in the jugular tracing, but is not perceptibly felt at the wrist. (Case 1.)

TABLE I.—*True Bradycardia.*

No. of case.	Sex and age.	Disease.	Auricular and ventricular rate.	Rhythm.	Symptoms.	Remarks.
1	M., 30	Mitral stenosis.	50	Regular.	Dyspnœa on exertion. Patient comfortable at time of tracing.	1 V.e.S. noted.
2	M., 23	Convalescent. Rheumatic fever.	60	,,	Patient has dyspnœa on exertion. Condition improved, and this was associated with acceleration of pulse (80) 13 days later.	—
3	M., 20	Convalescent. Lobar pneumonia.	54	,,	Patient comfortable. No symptoms.	Acceleration of pulse associated with improvement.
4	M., 50	Chronic nephritis.	54	Slight respiratory variation.	Patient comfortable. No symptoms.	—
5	M., 15	Convalescent. Acute gastritis.	58	Regular.	Patient comfortable. No symptoms.	—
6	M., 13	Convalescent. Asthma.	52	Very marked phasic variation. (See Fig. 1)	Patient comfortable. No symptoms.	Acceleration of pulse associated with improvement.
7	M., 25	Convalescent after "fit."	60	Regular.	Patient comfortable. No symptoms.	Character of fit unknown. Admitted as "urgency." Acceleration of pulse with improvement.

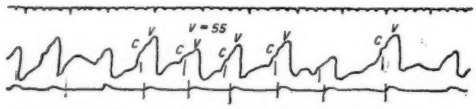
V.e.S. = Ventricular extrasystole.

Class 3.—Particular interest attaches to this class, not less on account of its frequency than upon the associated symptoms and their close relationship to and dependence upon treatment and prognosis. In all cases auricular fibrillation was present. This was readily demonstrated by the absence in the jugular pulse of the A wave, caused by the normal auricular beat, and also by the associated ventricular arrhythmia. There was in all cases clear evidence of organic cardiac disease, mitral stenosis with varying degrees of incompetence of this valve in ten cases, and cardio- or arterio-sclerosis was present in the remaining six cases. All the cases were in the middle decades of life; sexes about equally affected.

To appreciate fully the clinical significance of this group of cases it is necessary, perhaps, briefly to note the more pertinent facts at present known regarding the

influences affecting ventricular activity during auricular fibrillation. The fibrillary movement of the auricle conveys to the ventricle, *viâ* the *a.-v.* bundle and its two branches to right and left ventricles respectively, irregular and numerous impulses which excite this chamber to irregular and rapid contractions, usually in man at a rate of 100 or upwards. The ventricular frequency is proportional to the capacity of the *a.-v.* conducting channels to conduct to the ventricle the auricular impulses. If, now, the *a.-v.* bundle is partially

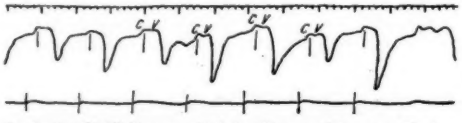
FIG. 3.



(Case 9, Class 3). Auricular fibrillation (note the absence of any A wave in the jugular tracing), together with irregular ventricular rhythm of slow frequency due to a high degree of *a.-v.* block.

blocked, the result is that a lessened number of auricular impulses reach the ventricle, and this chamber consequently beats at a slower frequency.[6] With progressive increase in this blocking this slowing can be induced to a point much lower than the normal ventricular frequency of 70 or thereabouts. Such cases, then, may become bradycardial, and it is in fact these cases which form the majority of the above list. In such cases, therefore, we may conclude that there exists, not only auricular fibrillation, but also a high degree of *a.-v.* block. It is especially to be noted that though slowing of ventricular rate results, the irregularity remains. Pushing this blocking process to its logical conclusion, however, we should expect to reach a point at which the block

FIG. 4.



Auricular fibrillation associated with complete *a.-v.* block. Note the absence of the A wave in the jugular tracing and the regular ventricular rhythm at frequency 37.

was complete and no auricular impulses could reach the ventricle. What happens, then, in that case, just as in ordinary heart-block, is that the ventricle assumes its own independent rhythm, regular in character, of 40. In the above series it will be noted that there were four instances of this, the proof resting in the fact that the ventricular rhythm is regular and at about 40. Similar examples of the association of auricular fibrillation and complete heart-block have been reported—Lewis and Mack,[5] Falconer (A. W.) and Dean (G.),[3] Lewis (Th.) (experimental production of),[6] and Lea (C. E.).[4]

Since in all the above cases but two the bradycardia was of gradual onset and associated with the exhibition of digitalis or its allies, it is suggested that this drug exerted an especial blocking effect upon the *a.-v.* conducting tissues. Such an inference has been supported by a large body of clinical and experimental evidence.

To come now to the cases themselves, the symptoms associated with the bradycardia were variable. In all the cases in which digitalis had been given the general condition of the patient was better than before. In three cases, however, despite the slowing, there were unfavourable signs (Cases 1, 6, and 7.). In Case 1 there were præcordial distress and a sense of constriction about the chest. In the other two cases the patients died during the bradycardia, both with considerable signs of loss of compensation, œdema, and so forth. The rest of the cases presented tolerable

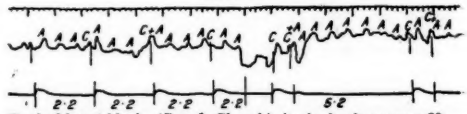
TABLE II.—"*Missed Beat*" *Bradycardia.*

No. of case.	Sex and age.	Disease.	Auricular rate.	Ventricular extrasystole.		Treatment.	Remarks.
				Time.	Frequency.		
1	F., 51	Mitral stenosis.	1. 120 2. 80 Radial = 40	None. Synchronous with auricular beat.	Each cycle.	—	Bigeminy with slower auricular rhythm; not with rapid. Occasional phases when V.e.S. arise irregularly, giving an irregular radial pulse.
2	M., 72	Cardio-sclerosis.	68 Radial = 34	,,	,,	—	Bigeminy induced by holding breath. Occasional phases where V.e.S. absent, or irregular in incidence.
3	F., 30	Functional?	78 Radial = 39	,,	,,	Digitalis (small doses).	Bigeminy more marked after digitalis.
4	M., 59	Chronic nephritis. Cardiac dilatation.	85 Radial = 43	Pulsus alternans.		—	The smaller beats not conducted to radial, giving half frequency. Such phases only occasional. Patient died.
5	M., P	Arterio-sclerosis.	72 Radial = 54	V.e.S. just precedes auricular beat.	Irregular, but frequent.	—	—
6	M., 35	,,	80 Radial = 40	Synchronous with auricular beat.	Each cycle.	Digitalis, ℥5 t.d.s.	Occasional phases when V.e.S. not present. Pulse then regular at about 78.
7	M., 59	Arterio-sclerosis. Paralysis agitans.	66 Radial = 56	V.e.S. irregularly placed.	Irregular, but frequent.	—	Digitalis seemed to have no effect in altering rhythm. After a swallow, ventricle slowed for three succeeding beats to a regular 36 per minute.
8	M., 39	Arterio-sclerosis.	96 Radial = 48	Synchronous with auricular beat.	Each cycle.	—	Incidence of bigeminy variable. Sometimes, V.e.S. only single and infrequent; at others, frequent and occurring irregularly.
9	M., 23	Mitral stenosis.	80 Radial = 40	,,	,,	Digitalis had no marked effect.	Bigeminy usually came on with changed posture. No single V.e.S. noted. Arrhythmia, when present, always of bigeminal type.

comfort. This was especially noticeable in those cases where there was complete heart-block (Cases 5, 10, 11, and 16). In three of these cases the condition was compatible with a considerable degree of exertion. In the three serious cases the ventricular frequency was low; 36 in two, and in the other case (7) the full ventricular beats were 36, but there was a bigeminy due to extrasystoles. (See Table III.)

Class 4.—These cases merit brief notice here. Many cases of true heart-block continue to be published, a fact which

FIG. 5.



Typical heart-block. (Case 1, Class 4.) Auricular frequency 90, ventricular 26 per minute. Complete dissociation of the two chambers. Note a ventricular pause of 5·2 seconds' duration.

demonstrates their relative frequency of occurrence. The main clinical features present much similarity. The three cases of this series present no feature calling for comment. (See Table IV.)

The clinical features of bradycardia are mainly dependent upon the character of ventricular response to auricular

activity. Of the four classes noted the easiest to understand, perhaps, are the cases of true bradycardia, due to slow auricular rate and apparently unaffected by changes in the *a.-v.* conductivity. Such cases present no marked clinical features, and no treatment is necessary. The remaining three classes depend upon the interrelationship between auricular activity and *a.-v.* conductivity. With regard to the latter factor it must be noted that changes in the power of conductivity may affect not only the main bundle of His, but also one or other or both of the branches (right and left) as they pass into the right or left ventricular musculature respectively. The lowest form of block which we could consider, then, would be one which involves one only of the two conducting branches, the main bundle being intact. The observed effect of such a single branch lesion is that the ventricle to which the conducting channels are normal contracts before the one to which the conducting channels are excitability must play an important part, and it is probably the varying relationships between these two factors that explain the variable characters. It is suggested, however, that with regard to the cases in Class 2, where extrasystoles arose in many instances in regular manner, and in all with considerable frequency, it may be reasonably assumed that there is altered relationship between the conducting channels and the ventricular musculature, and that this alteration is in the direction of an enhanced ventricular irritability or an associated alteration of conductivity. Regarded in this sense, the cases of Class 2 may be taken to represent the combination of a normal auricular activity (the auricular frequency was in all cases within normal limits) and an altered *a.-v.* conductivity. The clinically observed fact that in these cases the inception of the abnormal rhythm, due to the extrasystoles, was usually dependent upon altered extrinsic conditions, such as exertion, mental excite-

TABLE III.—*Cases of Auricular Fibrillation.*

No of case.	Sex and age.	Disease.	Auricle.	Ventricle.				*a.-v.* conductivity.	Treatment.	Remarks.
				Normal + V.e.S	V.e.S.	Incidence of V.e.S.	Ventricular rhythm.			
1	F., 17	Mitral stenosis.	Fibrillating.	72	36	Each cycle.	Irregular.	Low.	Tr. digitalis, m 5 t.d.s., 37 days.	Pulse before treatment at 80. Patient has occasionally feeling of præcordial distress.
2	M., 30	Arterio-sclerosis.	,,	1. 60	—	—	,,	Moderate.	—	Patient dyspnœic.
				2. 40	—	—	,,	Low.	Pill diuret. t.d.s. 18 days.	,, comfortable.
				3. 72	36	Each cycle.	,,	,,	,, ,, ,, 23 ,,	,, ,,
3	M., 35	,,	,,	55	—	—	,,	,,	—	Patient had periods when rhythm regular and faster. Exertion led to irregularity.
4	M., 69	,,	,,	1. 50	—	—	,,	,,	—	Patient in good general condition.
				2. 60	—	—				
5	F., ?	Mitral stenosis.	,,	1. 60	30	Each cycle.	Regular.	,,	—	Stages of block and inception of V.e.S. vary from period to period. General condition of patient good.
				2. 40	40	—	,,	Ht. block.		
6	F., 73	,,	,,	1. 72	36	Each cycle.	Irregular.	Low.	Digitalis.	Patient in considerable distress. Died day after tracing taken.
				2. 65	65	—	,,	,,		
7	F., 42	,,	,,	36	—	—	,,	,,	Nativelle granule daily for 43 days.	Much cyanosis and œdema. Patient died.
8	M., 24	,,	,,	72	24	Irregularly placed.	,,	,,	?	Patient has much dyspnœa on exertion.
9	F., 58	,,	,,	55	—	—	,,	,,	No digitalis.	Marked right side heart dilatation. Patient fairly comfortable.
10	M., 58	Arterio-sclerosis and nephritis.	,,	1. 42	—	—	Regular.	Ht. block.	Strophanthus, m 15 t.d.s., 7 days.	When block present, patient comfortable. Patient died later, after block had passed off.
				2. 61	13	Irregularly placed.		Low.		
11	M., 44	Mitral stenosis.	,,	38	—	—	,,	Ht. block.	Digalen, m 10 t.d.s., 33 days.	Patient comfortable. No symptoms.
12	F., 42	,,	,,	45	—	—	Irregular.	Low.	Tr. digitalis, m 10 t.d.s., 15 days; m 5 t.d.s., 23 days.	Patient comfortable. Phases of slow and more rapid beats, varying from 30 to 65 per minute, such phases only four seconds long.
13	M., 27	,,	,,	60	—	—	,,	Moderate.	Tr. digitalis, m 5 t.d.s.	—
14	M., 42	,,	,,	48	—	—	,,	,,	?	—
15	M., 35	Arterio-sclerosis.	,,	60	—	—	,,	,,	?	—
16	M., 42	,,	,,	30	—	—	Regular.	Ht. block.	No digitalis.	Patient fairly comfortable.

defective. The character of the ventricular beat is abnormal in form.[1] It has been found, also, that the type of beat thus produced is identical with the usual forms of extrasystoles clinically and experimentally observed. Again, digitalis is a drug which is said to exert distinct influences upon the conducting tissues in the direction of lowering the power of conductivity. Such action has been noted mainly upon the main bundle of His, but it has been shown that with toxic doses of this drug, in animals, the ventricle beats in abnormal fashion identical again with that of an extrasystole.[9] It is tempting from these observations to suggest that in the latter instance the abnormal beats are due to defective conductivity in one or other of the *a.-v.* branches. Such a conclusion, however, is not fully warranted, and the exact genesis of the extrasystole as clinically seen is still undetermined. In dealing with conductivity within the ventricular musculature, as represented by the branches, the associated conditions of the ventricular ment, or even posture—conditions as a rule, associated with alterations in auricular frequency—presents a suggestive analogy to certain cases of incomplete heart-block (main bundle). For in these cases, unlike those in which the block is complete, the ventricle is still under auricular influences, and it is in just these cases that with exertion attacks of syncope are prone to arise.[6] Such fits are due to the increasing degree of block consequent upon an accelerated auricular frequency, and the analogy of such fits may be made to the less acute, but nevertheless present symptoms occasionally induced by the inception of regularly recurring extrasystoles. In both cases there appears to be an altered relationship between auricular activity and *a.-v.* conductivity.

Coming now to those conditions where there is demonstrable blocking in the main bundle of His, these are well exemplified in Classes 3 and 4. In Class 3 the state of the auricle is the same in all—namely, fibrillating. The variant effects in individual cases from time to time and in different

cases are mainly attributable to changes in conductivity. Such conductivity changes are in all cases in the direction of depression, and in nearly all the cases, but not all, the cause of this was digitalis. The action of the drug is exerted in the main upon the bundle of His. This fact is evidenced because the slowing in many cases was not associated with extrasystoles, and also because in three instances complete block was obtained. Not all cases, however, presented this feature. Just as in Class 2, and with even more reason, there is evidence that the alteration might not be wholly confined to the main bundle, but might influence also one or other of the branches. Such evidence seems to be afforded by the frequent appearance of extrasystoles. These arose in some cases regularly, as in Cases 1, 2, 5, and 6; in others less regularly. In all the cases where the *a.-v.* block was complete their presence was noted.[2] In Case 10 the continued administration of strophanthus after the inception of complete block resulted in occasional paroxysms of tachycardia, due to rapidly successive nodal or ventricular extrasystoles. To what extent the presence of these extrasystoles prevents or fails to influence the inception of the independent ventricular rhythm, so typical of complete block, there does not appear to be sufficient evidence to say.

Conclusion.—From a consideration of the above cases it seems reasonable to conclude that in most cases the cause of bradycardia (excluding Class 1) may be attributable to altered *a.-v.* conductivity, that such a cause is responsible not only for Classes 3 and 4, but also possibly for Class 2; and that in most cases of auricular fibrillation, but not all, the cause is digitalis.

TABLE IV.—*Complete Heart-block; Auricles Active.*

No. of case.	Sex and age.	Disease.	Auricle.	Ventricle.		*a.-v.* conductivity.	Remarks.
				Frequency.	Rhythm.		
1	M., 66	Cardio-sclerosis.	90	30	Regular.	Block complete.	Patient died. Digitalis tended to increase frequency of syncopal attacks.
2	M., 38	Acute myocarditis.	126	34	,,	,,	Patient died. Suppurative myocarditis involving especially the interventricular septum.
3	M., 32	?	60	36	,,	,,	Patient subject to syncopal attacks.

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Manchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF RUPTURE OF A NORMAL SPLEEN.

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A MAN, aged 32 years, was admitted into the Campbell Hospital at 10 A.M. suffering from abdominal pain and tenderness. He stated that this from the first was due to a blow he had received three hours previously. His general appearance was anxious; the pulse was 76 and of fair volume, the respirations were not hurried, and there was no abdominal distension, but some pain on pressure which was not definitely localised. The shifting dulness on abdominal percussion was the most marked symptom of abdominal mischief.

The patient was immediately prepared for operation and by the time this was effected his condition had undergone a complete change: the pulse-rate had increase to 100 and the volume was markedly smaller, the respirations were hurried, and the dulness on percussion was very considerable, especially over the pubic region. A median incision was made, and when the abdominal cavity was opened a large quantity of fluid blood escaped and masses of blood-clot had to be removed. The abdominal incision was continued up towards the ensiform process when it was seen that the hæmorrhage proceeded from the lower margin of the spleen. A transverse incision four inches long was then made, the vessels were ligatured, and the spleen was removed. The patient's condition at this time was critical. An intravenous saline injection of four pints was given, and after all the blood had been removed the abdominal cavity was filled with hot saline and the wound was stitched up by through-and-through sutures. Recovery was practically uneventful, but brachycardia was a marked symptom for some time.

The interest in this case lies in the facts that the patient was a healthy well-developed man, the spleen apparently normal in every respect, and the blow received not severe. The rupture was an inch in length, situated along the lower margin. The blood-count six weeks after operation was as follows: Red blood corpuscles, 4,200,000; white blood corpuscles, 17,600; polymorphonuclear, 28 per cent.; transitional, 10 per cent.; large mononuclears, 12 per cent.; lymphocytes, 50 per cent.; and eosinophiles, *nil*. After six months: Hæmoglobin, 74 per cent.; red blood corpuscles, 4,000,000; white blood corpuscles, 14,000; polymorphonuclear, 72 per cent.; large mononuclears, 8 per cent.; lymphocytes, 20 per cent.; and eosinophiles, *nil*. After one year: Hæmoglobin, 93 per cent.; red blood corpuscles, 5,100,000; white blood corpuscles, 8,000; polymorphonuclear, 40 per cent.; large mononuclears, 20 per cent.; lymphocytes, 28 per cent.; and eosinophiles, 12 per cent. These figures tend to confirm the observations of Y. Noguchi which he reported last year in the *Berliner Klinische Wochenschrift*, of which an interesting *résumé* is given in the January number of the *Medical Review*.

Calcutta.

A CASE OF LARGE DERMOID CYST SITUATED OVER THE STERNUM.

BY JOHN A. C. MACEWEN, M.B., C.M., B.SC. GLASG., F.R.F.P.S. GLASG.,

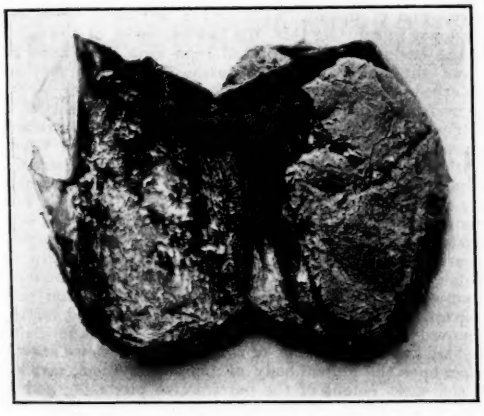
SURGEON TO THE ELDER HOSPITAL, GOVAN; ASSISTANT SURGEON, GLASGOW ROYAL INFIRMARY; ASSISTANT TO THE REGIUS PROFESSOR OF SURGERY, GLASGOW UNIVERSITY, ETC.

THE patient, a girl aged 17, was sent to me by Dr. W. Allan, of Govan, and was admitted to the Elder Hospital on March 21st. The history was to the effect that a small red mark existed from the time of birth in the middle line a short distance below the episternal notch. Little difference was noticed in the condition until about the age of 12, when it began to increase in size, appearing at first as a thickening of the skin under the mark, which, as it grew, became more tumour-like. Shortly thereafter, when the swelling was of about the size of a hen's egg, but flatter, it was first shown to a medical man, who did not advise surgical interference. Four years ago, when the patient was 13 years of age, the tumour increased rapidly in size, became much softer, and caused a sensation of breathlessness, which ultimately induced her to see Dr. Allan.

On examination a soft, fluctuant swelling, of the size of a large orange, was found, situated in the middle line of the chest, rather above the level of the breasts, which extended slightly into the prominence of the left breast when the patient lay flat. Above it came to within an inch of the episternal notch. In contour and general appearance it roughly resembled a third, median, breast without nipple. Numerous dilated veins were seen on the surface, and the skin over the most prominent part, which was situated in front and slightly underneath, was reddened and very thin. There was no tenderness on pressure, but the patient complained of an increase in the slight choking sensation which she always had; and on relaxation a curious, almost crepitant sensation was felt by the examining fingers, both symptoms suggesting the possibility of some connexion with the interior of the chest, and perhaps the lung, which, however, was ultimately found not to exist. The tumour was distinctly fluctuant, but there was no thrill. It was not translucent, nor was it lobulated. It moved freely on the surrounding tissues, and the skin was freely movable over it, except at the prominent part, already mentioned, on the antero-inferior surface. The patient in other respects was normal and in excellent health.

Operation.—The tumour was easily removed through a vertical incision extending for about three inches down from a point one inch below the sternal notch. In spite of care, it was opened at the point where the skin was very thin, and fully an ounce of opalescent fluid escaped, some of which was preserved and examined. The interior at the same time was seen to be occupied by sebaceous-like matter in the form of innumerable minute granules, which, however, became matted together in the process of enucleation of the tumour, which presented no difficulties. There was no connexion with the sternum nor mediastinum, nor was there a depression in the bone. The patient made an uninterrupted recovery, and subsequently expressed herself as

FIG. 1.

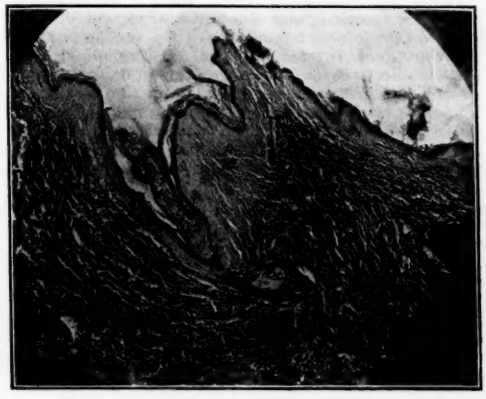


Shows the tumour after removal and hardening. The tumour has been divided longitudinally and shows skin lining and pultaceous mass. (Reproduced from photograph.)

entirely free from the breathless feeling. Although no skin was removed at the operation, it was observed that after removal of the tumour there was no redundancy such as had been expected. It may be presumed, therefore, that the breathless sensation was due to slight tightness of the skin of the chest, caused by the presence of the tumour.

Pathological examination.—The fluid removed from the cyst was sterile, and contained numerous degenerate epithelial cells. The cyst itself, after hardening, was divided longitudinally, and was found to consist of a capsule of connective tissue externally and skin internally. From the skin surface numerous very fine hairs protruded. This capsule was complete, but whereas the skin was thick and well formed on the deeper aspects of the tumour, it became thinner as the anterior aspect was approached, until around the part ruptured at the operation the presence of skin was doubtful. The cavity of the tumour, after escape of the fluid and subsequent hardening, was entirely occupied by the pultaceous matter, embedded in which were a few fine long hairs. The pultaceous matter, however, had entirely lost the striking granular appearance which arrested attention when the tumour was first opened. (Fig. 1.) A microscopical examination of portions of the skin lining of the cyst showed comparatively little attempt at papilla formation, and hair follicles were very scarce. On the other hand, glands were fairly numerous, opening on the skin surface, as a rule, by greatly dilated ducts. (Fig. 2.)

FIG. 2.



Low-power microphotograph of skin lining showing glands and greatly dilated duct.

So far as the writer can ascertain, dermoids of the front of the sternum are extremely rare; indeed, the only cases reported which he can find are those referred to by Bland-Sutton,[1] and he has therefore thought it desirable in reporting this case to give as full particulars as possible regarding it.

Glasgow.

Medical Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Conduction Defects in the Heart.—Intestinal Toxæmia.

A MEETING of this society was held on July 2nd, Mr. J. M. COTTERILL, the President, being in the chair.

Dr. W. G. SYM and Mr. A. A. SCOT SKIRVING showed a female, aged 24, after excision of an orbital fibro-sarcoma by Krönlein's method. She had complained of slight impairment of vision in the left eye for about seven years; proptosis was first observed five years ago, and a feeling of heaviness without pain during the past four years. The pupil was markedly dilated; the movements of the eye were normal; there was no diplopia; the fundus was slightly congested and œdematous. The operation, performed on Jan. 10th, 1913, revealed an encapsulated soft tumour of the size of a large grape, closely applied to the outer and posterior aspect of the globe. The result had been satisfactory except for impairment of movement in the external rectus.

Mr. SCOT SKIRVING exhibited an inveterate case of Tuberculosis of the Left Humerus and Scapula treated by ileo-sigmoidostomy in a girl aged 9 years. Since the operation distinct improvement had resulted; some of the sinuses had closed and others were healthier.

Dr. G. D. MATHEWSON communicated a paper on Conduction Defects in the Heart, with lantern demonstration. He drew attention to the value of the electrical or galvanometric method in the recognition of lesions in the conducting

[1] Bramann, Archiv für Klinische Chirurgie, 1890, Band xl., p. 101; Cahen, Deutsche Zeitschrift für Chirurgie, 1891, Band xxxi., p. 370; Clutton, Transactions of Pathological Society, 1887, vol. xxxviii., p. 393.

tissue of the heart. To be able to determine what was the condition of the heart muscle was of the utmost importance as regarded prognosis. As myocardial lesions frequently did not give rise to any striking or distinct physical signs, their recognition was not so easy as was that of valvular lesions accompanied by murmurs. A lesion in the auriculo-ventricular bundle was often only part of a more widespread myocardial change, and therefore clear demonstration of any defect in conduction became of importance. When a lesion existed in the main stem of the bundle the resulting condition of heart-block might be either partial or complete. In the latter there was no transmission of stimuli from auricle to ventricle, and the auricles became dissociated from the ventricles in their action. The ventricles assumed an independent rhythm of about 30 per minute. This complete block could be recognised by ordinary clinical methods, as, for example, pulsation in the jugular veins. When the block was only partial the only effect in the mildest cases was to lengthen the interval between the auricular and the ventricular systole. In a more severe case the stimulus failed from time to time to pass over the bundle to the ventricles, so that they missed a beat and gave rise to an intermittent pulse. The cases of heart-block to which Dr. Mathewson referred were produced by a lesion that involved the main stem of the bundle, but it was possible for a lesion to occur which left this main stem intact and affected only one of the two main branches into which the bundle divided for the supply of the two ventricles. This was at present unrecognisable by ordinary clinical methods and its detection depended entirely on the galvanometric method. It had to be remembered that vagus stimulation might be the cause of the heart-block, and that when a conduction defect existed in the heart vagal stimulation might further depress the conductivity. Digital pressure over the vagus in the neck had produced dropping out of some of the ventricular beats. In most cases interruption of conduction by one branch was a permanent feature when it had once been established. The recognition of minor degrees of conduction defect had a practical bearing upon treatment. It was found that the widely used drugs digitalis, strophanthus, and squill tended to depress conductivity in the auriculo-ventricular bundle. These were therefore contra-indicated when any such defect already existed in the heart. Unfortunately, no treatment was of avail in improving conduction in most cases. The most hopeful were those in which the lesion interfering with conduction was a gumma. Numerous records of cases were shown, and these were obtained not mechanically like those from the pulse or apex beat, but were records of variations in electrical potential arising in consequence of the heart's contraction.—Dr. WILLIAM RUSSELL said that he was impressed by the extraordinary skill and ingenuity in the methods by which the heart's action could be revealed. He thought, however, that the tendency was to overvalue the clinical importance of many of these observations. He thought that these later methods should be only supplementary to the past methods of cardiac examination. Cases of heart-block were often diagnosed without the aid of the electrocardiograph; the cardiac impulse gave a certain number of beats, while the jugular beats were two or three times as frequent. The significance of this inquiry lay in the involvement of certain muscular bundles, but one might get extensive myocardial affection without involvement of these bundles.—Dr. WILLIAM T. RITCHIE said that the electrocardiograph gave information which was not attainable by other means. Auricular fibrillation in arterio-sclerosis could only be shown by the string galvanometer, and so also was frequently the case in paroxysmal tachycardia due to fluttering of the auricles. It also gave information as to the tone of the heart muscle, and allowed one to localise certain lesions in that organ.

Dr. RUSSELL introduced a discussion on Intestinal Toxæmia. He alluded to the great extent of the field included in the title. He stated that two factors had to be recognised: (1) the individual or personal factor; and (2) the substances dealt with (the extraneous factor). Under the first the following points must be borne in mind: (*a*) the great subtilty of the chemical dynamics of the animal body, within average or normal limits, as seen in families and in individuals; (*b*) individual idiosyncrasy to alimentary toxæmia from food, beverages or drugs. Dr. Russell mentioned instances which had come under his own observation, as where egg albumin in any form or quantity acted as a poison; where haddock alone and no other fish acted as a poison to a certain individual; where tea was a deadly poison to the wife of a medical man; where barley in any form, even in malt liquor, was toxic; or as regarded drugs, where potassium iodide could not be taken by a patient who yet could take large doses of the sodium salt with impunity, or where a single grain of quinine caused cinchonism. Such idiosyncrasies were illustrations of the extreme subtilty of the chemical processes in the human body. Under the second factor, or the substances dealt with, it would be found that it had such a close relationship to the first that it could not be dealt with separately when the effects or results were looked at clinically. The broad problem before the clinician was based upon the fact of the prevalence of constipation, or colon stasis, to use the polite modern euphemism. It was at the root of many of the manifestations of alimentary toxæmia, though one had to remember that many cases of constipation were not associated with toxæmia. In old people very often stuttering of speech, weakness of legs, or fulness in the head were symptoms due to constipation, and in younger persons there was often marked response to the retention of excreta. From the consideration of this problem there might be excluded the person who ate in excess, and who digested and assimilated what he ate and became fat, plethoric, and gross. The problems in constipation were: 1. The effect of constipation upon the secondary digestion, including in this the excretory side of the process and the consequent retention of the waste products of cell metabolism. The evacuation of the alimentary contents meant evacuation of the hepatic excretion. The liver was an organ which excreted waste products into the bowel, and if these were not carried away they were again carried through the liver and embarrassed its action. The liver prevented the passage of deleterious substances from the abdomen into the general circulation, and constipation hindered this action. 2. The absorption, and the effects produced by such absorption, of bacterial toxins. This aspect of the problem was a natural development of our modern knowledge of bacteriology, and in dealing with it the ordinarily ill-balanced tendency to consider this, the newest aspect of the subject, to the exclusion of others, had been seen. We knew little about the action or fate of toxins even when they were absorbed or how they were dealt with in the liver. Yet we knew for certain that the most important aspect of this subject was the absorption of products of putrefactive processes in the intestine, the result of proteid feeding. Cirrhosis of the liver and kidneys was not observed in vegetable-feeding animals, such as oxen and sheep, while in the carnivorous animals, such as the cat and the dog, it was frequently observed. The question of the absorption of the products of intestinal putrefaction must always be regarded from the standpoint of the accompanying constipation, which impeded and gravely hindered the detoxicating function of the liver; and that the whole question of the passage of such injurious products into the blood might be removed with the removal of constipation. It was not claimed that we knew the number of these toxins; that we knew the effect upon the animal body of any one of them, save some of the most potent of the putrefactive products; and still less of the effect of combinations of them. The whole problem was complicated by the fact that symptoms might be due to idiosyncrasy to common food substances, and by probable variations in the susceptibility of the ductless glands to different food substances. 3. The reflex effect of constipation upon the vascular system. This aspect of the question had been ignored—passed by as an unrecognised factor. This abdomino-vascular reflex had a distinct influence in producing phenomena which were erroneously referred to toxæmia. Both as regarded the influence of toxins absorbed and of constipation acting reflexly, the individual susceptibility played an important part. The skill of the clinician lay in his power of giving to each factor its due and correct place in each individual case, realising that no single factor was the sole factor.—Professor H. ALEXIS THOMSON said that assuming that there occurred a condition of stasis in the colon which required operative measures for its relief, surgeons were not yet in a position to express an opinion based on experience as to the method of operation to be selected. The choice ranged from a simple appendicostomy, through various forms of short-circuiting or entero-anastomosis, to resection of a part or of the whole large

intestine. The choice would be mainly influenced by the comparative safety of the operation and by its efficacy in restoring the function of the bowel.—Dr. D. CHALMERS WATSON said that he would have preferred to hear more about symptoms and treatment. There were two distinct groups—(1) those cases which were definitely constipated and where the constipation was corrected early, the great majority of patients recovered; (2) cases associated with constipation which had existed for a long time. He habitually made a careful examination of the stools, as without such investigation he could form a very inadequate opinion. He asked if the fact that the intestinal secretions were found to be acid led Dr. Russell to do anything in the way of treatment? It might be that after weeks of continuous treatment along the most approved lines the condition remained as before; this was the late effect of constipation, medical measures failed and surgical treatment had to be resorted to. Very little was known about the etiology of intestinal toxæmia, but in certain cases one might obtain a pure culture of B. coli, while in other cases a series of organisms was found. If the significance of these was known, a little more light would be obtained. He was perfectly certain that if the condition were recognised early and treated properly these cases would never require surgical treatment. As regarded treatment, he began by starving the patient altogether except for some skim milk, and from this through a whole grade of diet in a certain time. How should one assume that certain rheumatic conditions were the result of intestinal toxæmia? His answer was that almost invariably when the deranged condition of the bowel had been corrected the symptoms disapeared.—Dr. E. F. T. PRICE said that in the last few years they had examined some 150 colons by means of the X rays. He did not think that the chemical constitution of the cell sufficiently explained the condition of stasis. He had come to the conclusion that the physician did not know how to treat these cases either early or late, and Dr. Chalmers Watson's hope that they would be eventually kept from the surgeon's hands was a vain one. The radiographer not only saw the stasis, but also the amount of the abdomen which was affected. If the amount of atony and the amount of bowel affected could be shown, the only operation was to remove that affected portion. When one saw the cæcum, the hepatic flexure, and the first part of the colon in an atonic, useless condition, it was better to remove it. He did not think that the radiographer (certainly not in Edinburgh) had got much encouragement. The condition was progressive, and if taken soon enough the surgeon, and the surgeon alone, could do any good; he did not think the physician could.—Dr. G. LOVELL GULLAND said that personally he found that if patients were really suffering from constipation or not they could be cured. In the first place, one had to find out whether the constipation was due to some bowel defect or to some other cause, and, further, whether all the symptoms which were present were due to constipation or to something else. None of the speakers had alluded to what could be learnt from the urine. Poisons were absorbed from the bowel and could be recognised in the urine. He agreed as to the importance of an examination of the fæces, but there was just the difficulty that because one found a large number of organisms were they really doing great harm to the patient. Examination of the fæces afforded an excellent method of finding out what had been digested in order to control the diet, but not of showing what changes had taken place in the wall of the intestine. This was, perhaps, better obtained by examining the blood pressure, urine, general look of the patient, &c. One often had to look far away for a possible cause of constipation, as for example, the teeth. There was often great difficulty in determining whether the stomach contained the primary poison or not.—Mr. E. W. SCOTT CARMICHAEL said that lately he had a striking case under his charge. It was a child, aged 2½ years, with a very large abdomen, rickety, walked with typical gait, was constipated, and had enlarged liver; she was listless and apathetic, and had hardly commenced to speak. On operating it was found that the child had an extremely long pelvic colon. Lane's operation was performed, and almost immediately afterwards there was a full evacuation of the bowels, and since then the bowels had acted every day. The liver diminished in size, showing that intestinal toxæmia had an important bearing on this condition, and the child was now bright and talkative.—Dr. R. A. FLEMING said that in many cases there was diarrhœa and not constipation—in other words, the patient was perfectly comfortable as long as he was constipated, but more particularly if there was colitis. As regarded X rays, a little boy in his ward was X rayed and the stomach was found to extend to the symphysis pubis. A bismuth meal was given at 7 A.M. and he was X rayed at 1 P.M., and no bismuth was found in the stomach. He was examined after a second bismuth meal, and the meal was demonstrated at the lesser curvature. He was surprised to find how very rapidly the bismuth passed off, and no doubt the posture of the patient had something to do with it.—Dr. MICHAEL DEWAR, Dr. R. A. LUNDIE, and the PRESIDENT took part in the discussion, and in reply Dr. RUSSELL said that he thought some of the members might have given a little of the special information which they had. In the discussion no doubt different speakers had been to a certain extent talking of totally different degrees of things. The effect of constipation and all that it implied in certain cases of rheumatism was undoubted. He knew a lady with a simple articular rheumatism of the shoulder joints and fingers who, if she eats a piece of beef to-day, finds her joints swollen to-morrow. He had seen three patients who had been diagnosed and regarded as epileptics and who had many epileptic seizures, whose epilepsy he was quite satisfied was due to intestinal conditions, and by attending to these the epileptic seizures disappeared. Then there were the advanced cases; he fancied that physicians could diagnose them, though they could not always rectify them; and it might be necessary to ask the surgeon to assist them towards rectification. The radiologist was from time to time of great service in confirming diagnosis and in assuring the relatives of the patient that surgical interference afforded the most hopeful outlook. He would warn Dr. Price that because he had examined 150 colons he must not rashly assume that there was a great body of the people suffering from constipation and who could only be cured by surgical means. Personally he had not seen much of the kind of case to which Dr. Chalmers Watson had referred. He either saw them so bad that he was sure he could not cure them, or he saw them at stages at which he successfully treated them. There was no doubt that the medical treatment of constipation and of the conditions which accompanied it was unquestionably the fine art in medicine. His experience was that the choice of the laxative by which the bowels were enabled to act regularly and efficiently required very great care and consideration. The physicians did not as a rule see ordinary cases of constipation; they only saw them when the affection was producing symptoms. Not very long ago he heard of the extreme value of suggestion in curing constipation. He had been assured that by diligently impressing upon the patient's mind the fact a practitioner could make the patient's bowels move to a minute every day. He knew of a patient who, being assured that if she took a glass of water at a certain hour, and a quarter of an hour later encouraged Nature to act, she was completely cured of most obstinate and inveterate constipation.

THE AFTER-CARE ASSOCIATION.—This association, whose objects are to assist cases discharged recovered from asylums for the insane, has just held two important meetings. The first took place on July 4th at All Saints' Vicarage, Highgate, by the kind invitation of the Vicar and Mrs. Hawkins. The chair was taken by the Hon. John Mansfield (Lord Chancellor's Visitor in Lunacy). The meeting was addressed by Mr. Stanley Keith, Mrs. Sikes, and Mr. Thornhill Roxby. There was a large attendance, a good collection was made, and several new members were enrolled. The second meeting was held on July 8th at Cane Hill, by the kind invitation of Sir James and Lady Moody. The chair was taken by Sir James Moody. The meeting was addressed by Sir George Savage, Dr. Percy Smith, and Mr. Thornhill Roxby. There was again a very good attendance, much interest being shown in the work of the association and a useful addition to the funds obtained. A vote of thanks to the host and hostess was proposed by Dr. Campbell and seconded by Dr. E. S. Pasmore, to which the chairman suitably replied. This charity is the only one of the kind in Great Britain, and assists cases from all parts of the country.

Reviews and Notices of Books.

Diseases of Children. By Various Authors. Edited by ARCHIBALD E. GARROD, M.D., M.A. Oxon., F.R.C.P. Lond., F.R.S., FREDERICK E. BATTEN, M.D., M.A. Cantab., F.R.C.P. Lond., and HUGH THURSFIELD, M.D., M.A. Oxon., F.R.C.P. Lond. Illustrated. London: Edward Arnold. 1913. Pp. 1184. Price 30*s.* net.

WE welcome this important volume on the diseases of children. Although the staff of the Great Ormond-street Hospital supplies the largest number of articles, most of the children's hospitals in London and a few of those in the provinces find representation in the list of contributors. In a sense, therefore, this new work may be regarded as representative of contemporary pædiatrics in this country. Although the names of the joint editors imply that the scope of the work is purely medical, the title in no way excludes reference to surgical matters. Mr. G. E. Waugh, in collaborating with Dr. Robert Hutchison on the subject of diseases of the alimentary tract, affords, we believe, the only exception to the rule that the contributors are exclusively physicians.

For reference purposes readers will appreciate the fact that all the articles are under the signatures of writers who have made a special study of the subjects with which they deal. This method of compilation, though invaluable from many points of view, has the serious disadvantage that it clearly places authors with a very wide knowledge of their subject in a peculiarly difficult position when, through limitations of space, they are required greatly to compress the subject matter of their articles. Thus, several of the chapters almost overwhelm the reader with the weight of solid facts, and with special references to the author's own investigations, consequently it follows that there are few inducements to use such a volume otherwise than as a work of reference; the text is distinctly ponderous and wanting in those clinical and illustrative cases which can make the one-man book so much more interesting reading. The chapter by Dr. Robert Hutchison is quite an exception to this general rule. It is written in the same illuminating style as that which has made his own books so peculiarly popular with professional readers. The editor-in-chief, Dr. A. E. Garrod, writes two excellent articles on the diseases of metabolism and of the ductless glands respectively. Although, strictly speaking, most diseases are due to faults in metabolism, there is much to justify the grouping and classification which Dr. Garrod has adopted, and we feel sure that he has done a good service to the profession by condensing within very reasonable limits in this volume many of the valuable monographs on the same subjects which he has published from time to time in the transactions of the medical societies. In addition to obesity, diabetes, and gout, those inborn errors of metabolism which Dr. Garrod has made special subjects of inquiry, and which include such conditions as alkaptonuria and cystinuria, are described with a simplicity that deserves gratitude. This lucidity is maintained in the same author's account of the somewhat involved pathology of the ductless glands, and from no source with which we are acquainted could the student obtain a clearer or more precise account of the diseases of the parathyroid, pituitary, pineal, and adrenal glands as they occur in the child. Developmental conditions, such as infantilism and gigantism, which are dependent on diseases of these organs, are fully discussed in these sections of the book, and the accounts of those somewhat rare diseases, of malignant medullary hydronephromata and of the cortical varieties of these neoplasms, are of a similarly high standard. Dr. G. F. Still contributes a short but instructive chapter on the various œdemas found in children, while to Dr. E. W. Goodall we owe a comprehensive account of the infective disorders. In connexion with the account given by Dr. Goodall of the prophylaxis of diphtheria in schools it may be remarked that he is of opinion that it is quite unnecessary to isolate chronic carrier cases if they are otherwise in good health. As this view is not in conformity with that held by most school medical officers, it is interesting to note that the editors append a footnote dissociating themselves from this expression of opinion. A distinction should surely be drawn between carrier cases discovered in schools at which sporadic cases of diphtheria occur, and those carrier cases that labour under no such suspicion. By the same author appears an account of Pfeiffer's glandular fever, a disease which the Wiesbaden physician described some 25 years ago, but which, so far, has not found its way into many of the text-books of medicine. From its obviously close affinity with the epidemic of sore-throat and enlargement of the glands in the neck which is now rife in institutional form, this description of the condition is of interest at the present juncture.

Dr. H. G. Adamson gives a good account of the skin diseases of children, which has suffered a little from necessary condensation. He classifies these diseases according to origin, as eruptions due to: (1) local physical causes; (2) parasitic or microbic causes; and (3) toxic causes. In these articles he incorporates many of the views on the significance of skin eruptions which rendered his Goulstonian lectures for 1912 useful contributions to dermatological literature. The diseases of nutrition are undertaken by Dr. Edmund Cautley, and within the limits prescribed they are well handled. But nutritional disorders have a wider significance than can be shown by any description of atrophy, rachitis, and scorbutus, representative as these types may be, and although for practical reasons it may be well to draw distinctions between the diseases of metabolism and the diseases of nutrition, in a strictly physiological sense no such distinctions are legitimate. Confusion still exists in our nomenclature of disease between diseases of dietetic origin and diseases of metabolic origin, which may or may not be dependent on food causes. Dr. Cautley also contributes the chapter on the feeding of infants, both natural and artificial, and this chapter is included among "the prolegomena," along with articles by Dr. A. M. Gossage on heredity and by Dr. J. H. Thursfield on immunity.

Diseases of the new-born are well described by Dr. F. Langmead, who also in another part of the volume describes in detail the various scleremas, which he classifies under four headings as sclero-œdema, sclerema, pseudo-sclerema, and sclerodermia. To assist in the differential diagnosis of these frequently misunderstood conditions Dr. Langmead has drawn up a very well-arranged table of symptomatic distinctions. We regard this succinct account of a very difficult subject as a real addition to pædiatric literature. Cardio-vascular diseases are considered by Dr. F. J. Poynton in a very carefully written and learned *résumé* of the recent work which has been carried out on this subject. The article is, in relationship to the general scope of the volume, disproportionately long, and possibly too abstruse for the requirements of many readers. Diseases of bones and joints are treated in a scholarly manner by Dr. H. D. Rolleston. The rare as well as the common conditions are described, and space allocated to them in conformity with their importance. The references which are given at the end of each section will be greatly valued by those who seek special information on the subjects included in this section.

The whole book appears to us to be singularly well edited. It is commendably free from blemishes of all kinds and from conflicting statements. It is well printed, well illustrated,

and if a perfectly faultless balance between the various sections has not in all cases been maintained, it would be very difficult to say in what direction the length should be increased, or from what chapters any part should be deleted. It is a valuable contribution to English scientific literature.

Text-book of General Pathology. By Various Contributors. Edited by M. S. PEMBREY and J. RITCHIE. London: Edwin Arnold. 1913. Pp. vi.–773. With 4 plates and 40 figures in the text. Price 18*s.*

THIS volume is a distinct and pleasing variation from the ordinary type of manual on general pathology and will amply repay the most careful study. It is true the editors intend it for the advanced student and the up-to-date practitioner, but it should enjoy a wider sphere of influence and even the average student will derive from its perusal a much-needed stimulus in his study of pathology as applied to the living patient. Just as a considerable amount of surface anatomy is instilled into the student before he leaves the dissecting-room, so also much of the information contained between the covers of this General Pathology might with advantage be imparted to the student of physiology of like standing; and thus applied human physiology, teaching the systematic application of physiological methods to the investigation of the functions of the different organs and systems of the human body, would become an integral part of the earlier studies and assure the medical student that for him physiology is not an abstract scientific pursuit but a practical study of the deepest import to himself and his prospective patients.

The volume under notice is undoubtedly a book with a purpose, marking in no uncertain fashion the trend of modern thought and emphasising the divorce of twentieth century pathology from mere morbid histology; and in this sense it forms a complete contrast and effective foil to the masterpieces of the last century, of which Wilks's and Moxon's "Pathological Anatomy" occurs to us as the best example. It will probably appeal with most force to the clinician, who dissatisfied with the routine practice of his art—the attempted correlation of the symptoms observed at the bedside with the often startling revelations of the post-mortem room—seeks to elucidate the broad principles underlying the morbid processes daily thrust upon his notice. The editors are convinced that this end can be attained only by the application of the physiological rule to the measurement of pathological values, and they have elaborated their thesis by the issue of a tome numbering nearly a thousand pages—not one of which would we willingly see omitted.

Opening with an introduction by the joint editors, in which their objects and aims are explicitly set forth, the conventional chapters upon infection and immunity of the ordinary text-book follow. Thus Ainley Walker contributes chapters upon inflammation and infection, and Browning one on immunity. We may mention that in the last-mentioned chapter "deviation of complement," a term usually employed to connote the Neisser-Wechsberg phenomenon, is loosely employed as synonymous with Bordet's phenomenon of "complement fixation." Then comes a series of monographs by physiologists, pathologists, and clinicians, all of whom are recognised authorities upon the subjects allotted to them, and their respective articles will command a wide circle of readers. The general plan adopted in the treatment of the special subjects has many advantages, and of course a few disadvantages, since it leads of necessity to some overlapping of subjects, to discrepancies, and even to contradictions in the views expressed, but this book certainly presents greater uniformity than is usual in the "Systems" with which modern specialism has now familiarised us, and speaks volumes for the adaptability of the various writers and the thorough supervision exercised by the editors.

The following summary of the contents will give some idea of the scope of the volume, and the names of the associated authors will guarantee the excellence and authority of the various contributions. Mott and Sewell contribute the chapter upon the nervous system; Pembrey deals with body temperature and with metabolism in general; Garrod, Walker Hall, and Beddard write on special aspects of this latter subject in connexion with hepatic disease, gout, and carbohydrate metabolism; Haldane discusses respiration; Boycott the blood and the circulation; Ritchie contributes the sections on tumour formation and hypertrophy and atrophy; and the section on degeneration and necrosis is in the hands of Lorain Smith.

Perhaps the most fascinating chapter in the volume is that supplied by Hertz on digestion, in which are incorporated the author's observations on the fate of the bismuth meal in health and in disease—a chapter which exemplifies in a most striking manner the value of physiological observations in interpreting the symptoms associated with diseased conditions of the alimentary tract. Ryffel's chapter on the kidney and its functions, which forms a concise summary of to-day's facts and opinions, is a noteworthy contribution, but is all too short. The concluding chapter, entitled "Death," is by Ritchie, and forms a fitting ending to a book which we have read from cover to cover with the keenest interest and appreciation.

A Manual of Surgical Treatment. By Sir W. WATSON CHEYNE, Bart., C.B., D.Sc., LL.D., F.R.C.S. Eng., F.R.S.; and F. F. BURGHARD, M.S. Lond., F.R.C.S. Eng. New edition, revised with the assistance of T. P. LEGG, M.S. Lond., F.R.C.S. Eng.; and ARTHUR EDMUNDS, M.S. Lond., F.R.C.S. Eng. In five volumes. Vol. III. London, New York, Bombay, and Calcutta: Longmans, Green, and Co. 1912. Pp. 575. Price 21*s.* net.

THIS volume deals with some very important surgical subjects. It commences with an account of the dislocations, and in this connexion we may notice that the authors consider that the difficulty in reducing some cases of dislocation of the metacarpo-phalangeal joint of the thumb, about which there has been from time to time much discussion, is due to the head of the metacarpal bone passing through the rent in the anterior part of the capsule. With this opinion we agree, but it would be unwise to say that this explanation is always correct. For the removal of a loosened semilunar fibro-cartilage of the knee-joint the authors prefer a skin flap, which certainly gives good access to the joint, though it is more common to make a horizontal incision, and this is generally quite sufficient.

Among the chapters devoted to the treatment of diseases of joints that dealing with tuberculosis is especially deserving of mention. The various diseases of the joints are considered in order, and then the joints are taken in turn, and we would especially draw attention to the excellent account of the diseases of the hip-joint; it is full and complete, and it should be sufficient to enable any practitioner to carry out efficiently the ordinary treatment of a case of hip-joint disease. As we have already stated in the notice of a previous volume, the character of the teaching is eminently practical. For instance, in the account of the draining of a suppurating hip-joint when two sinuses have been made to communicate and a drainage-tube has been passed from one to the other, we are told that a long piece of silk should be fastened to one end of the tube, so that when it is desired to wash the tube it can be pulled out; and then it will be easily replaced by traction on the silk. This is a practical point, the value of which would be recognised in actual use.

The important subject of tuberculous caries of the spine has been very clearly described, and we are pleased to see that the authors have given a number of photographs showing the clever devices of Mr. H. J. Gauvain.

The very difficult question of the treatment of trigeminal neuralgia is excellently detailed. Of the operative measures the authors say that if more than one branch of the fifth nerve is involved extirpation of the Gasserian ganglion should certainly be undertaken, as the ganglion is diseased in such cases, and it will be only waste of time to undertake any minor operation. As, however, the operation is very severe and undesirable consequences may follow, such as paralysis of the muscles of mastication and trophic changes in the cornea, they advise that other methods should be tried previously if the disease is limited to one branch. The injection of alcohol may be first employed, and if this fails recourse may be had to neurectomy. The section dealing with plastic surgery is good, and the numerous illustrations are useful; and the same may also certainly be said about the chapters dealing with the treatment of hare-lip and soft palate. In the latter chapter the authors describe the three methods of operating—namely, Langenbeck's, Davies-Colley's, and Brophy's—and they agree with most surgeons in giving the preference to Langenbeck's.

As in previous volumes, the illustrations are numerous and good.

Electro-Therapeutics for Practitioners. By FRANCIS HOWARD HUMPHRIS, M.D. Brux., F.R.C.P. Edin., &c., President of the American Electro-Therapeutic Association. London: Edwin Arnold. 1913. Pp. 243. Price 8*s.* 6*d.* net.

THIS book is not a systematic treatise on electro-therapeutics, as might be supposed from its title. It is a series of essays on various subjects that come within the scope of the title, as well as of some that do not. As the author gained his first knowledge of electro-therapeutics in America and is at the present time President of the American Electro-Therapeutic Association, we may fairly take the views here stated as representing modern American practice.

While most electrical methods are dealt with more or less, most of what the author has to say relates to the use of currents of high potential and high frequency, either singly or combined. This includes the various forms of static electricity, high-frequency currents as generally understood, and diathermy, or electrothermic penetration, as the author prefers to call it. Chapters are also given on the use of the high-power incandescent electric lamp and the X rays. Ionic medication receives some attention, especially in joint lesions, and a chapter is devoted to the modern electrical treatment of obesity. In the compilation of the work the author has had the help of Mr. W. Hampson, who contributes most of the references to the use of the X rays, and Dr. J. Curtis Webb explains his methods of treating some disorders of the alimentary system.

With regard to the claims made as to the efficacy of the static machine in the treatment of many disorders, this volume is as profuse as many that have gone before, and though the author states in his preface that the results may be imitated by anyone who takes the trouble, the fact remains that such results are very difficult to imitate in the opinion of many who have tried under very favourable conditions. We need not labour this point, but this difficulty is probably one reason why static electricity has not made the progress that should follow its use were the results as constant as the writer asks us to believe. We are of opinion that the more firmly the operator believes in the efficacy of static electricity the better the results he will obtain—better than those obtainable by anyone who is critical, though his technique be never so accurate. Notwithstanding what the author says to the contrary, we are still indisposed to dissociate the psychic element from any part in the results of static treatment. When we look for some scientific explanation as to how these results are obtained—and we did hope to find something here—we find ourselves no better off than before. We have the same references to "cellular contraction," "protoplasmic contraction," and so on, but no proof of these things taking place under the influence of static electricity, or that the same may not take place under the influence of other forms of electrical stimulation—the faradic current, for instance. Our scepticism remains, even after we are told that the same application will relieve a high arterial tension or restore a low tension to a more normal state.

The book shows evidence of considerable care in its preparation, and will no doubt appeal to those who are interested in the more modern methods of electrical treatment.

Tuberculin in Diagnosis and Treatment. By LOUIS HAMMAN, Associate in Medicine in the Johns Hopkins University, and SAMUEL WOLMAN, Instructor in Medicine in the Johns Hopkins University. London and New York: D. Appleton and Co. 1912. Pp. 381. Price 12*s.* 6*d.* net.

THE authors remark in their preface that the use of tuberculin in diagnosis and treatment has received wide attention during the past decade, and that a voluminous literature has grown up which is widely distributed, a considerable proportion of it being in languages other than English. They have therefore attempted to give a summary of the work done by various physicians, to which they have added the conclusions they have arrived at by their own observations.

The first section of the book is taken up with certain theoretical considerations. In discussing the specificity of the tuberculin reaction, it is shown that the reaction is an index of tuberculous infection, not of tuberculous disease. An individual may be in excellent health and still harbour a tuberculous lesion and display a marked grade of hypersensitiveness to tuberculin. We agree with the authors that an individual is not regarded as tuberculous until there are tangible symptoms referable to the lesion, drawing a distinction between infection and clinical manifestations which constitute disease; thus a reaction to tuberculin, when given subcutaneously, means essentially that the individual reacting has a tuberculous infection, and in itself means nothing more. Reliable observers have proved that from 40 to 60 per cent. of healthy individuals react to tuberculin given subcutaneously, and this result must be remembered in an estimate of the value of the test when dealing with cases suspected clinically of having tuberculous disease. In speaking of the cutaneous tuberculin test, the authors are in harmony with the opinion expressed by the large majority both of clinicians and of workers in the laboratory—namely, that a positive reaction is of considerable value during the first year of life, of less during the second year, of little in childhood, and of none in adult life.

The various methods of administering tuberculin for therapeutic purposes are fully explained and discussed in an open and scientific manner. The opinion is expressed that good results are obtained by the slow method of giving small doses and so avoiding reactions; less risk is thus undertaken. Many charts are reproduced demonstrating the effects of tuberculin. With regard to the results, the authors state that upon a discriminating inspection of the evidence brought to them by the users of tuberculin one deduction is salient: tuberculin is not a "cure" for tuberculosis any

more than hygiene, or rest, or diet, or climate, but it constitutes a favourable factor therein. We believe that to be a fair conclusion from all the facts that have been produced. Some physicians are too advanced in optimistic views; others are too pessimistic. The truth lies in an intermediate view, that tuberculin, when cautiously administered, is a good adjunct to other methods of treatment.

This work will serve as a guide to those interested but inexperienced in the use of tuberculin.

Lehrbuch der Physiologie des Menschen. Herausgegeben von N. ZUNTZ und A. LOEWY in Berlin. Mit 289 Abbildungen und 3 Tafeln. Zweite, verbesserte Auflage. Leipzig: F. C. W. Vogel. 1913. Pp. 746. Price, paper, 20 marks; bound, 22 marks.

THERE are one or two examples of medical books in English which have reached a second edition in which the number of pages has been diminished, but it is very rare to find a German text-book in its second edition in which the actual number of the pages of text is diminished, as is the case in the edition before us of this text-book of human physiology by Zuntz and Loewy, where the text-book falls from 737 to 719 pages, and the illustrations from 306 to 289. The diminution in the number of pages has been obtained in a twofold manner. Some illustrations have been withdrawn and a few new ones added. We could have wished that something near the original number of pages had been retained, if only to give space for additional illustrations, which in some of the chapters are much wanted—e.g., the reference to Pawlow's pouch, to the sympathetic supply of the lower gut and bladder, to the string galvanometer and the typical records taken by means of it, require diagrams for their elucidation A plate showing the connexions of the sympathetic nerve in the head and neck has been added. Space has also been obtained by condensing some of the original text and printing some parts of it in small type.

Over 16 well-known physiologists are contributors. Most of the chapters, of which there are 23, retain their original form so far as the text is concerned, with here and there excisions, emendations, and additions. We note the addition of a short chapter on electrical fishes, one on the sensations of tickling and itching, and another on common sensation, and, to be up to date, a short account of flight is included by R. du Bois-Reymond, in his article on mechanics of bodily movement. We are glad to find the subject of locomotion again finding its way into our text-books, considering what an important part motion and locomotion and their aberrations play in the diagnosis of certain diseases. We could have wished to see a more artistic and shapely figure than Fig. 146 to illustrate a human being standing, albeit it is called a "model." Owing to the death of Professor Nagel, the chapters on general physiology of the senses and the special physiology of the lower senses—i.e., smell, taste, and the cutaneous senses—originally written by him, have been revised by the competent pen of Professor von Kries, of Freiburg i.B. Otherwise the collaborators are the same as for the first edition.

Professor Exner manages to condense a very large amount of information on the general physiology of the central nervous system into 20 pages. He might with great propriety have expanded the rather short account of the cerebellum. The chapters on the sense organs seem to us to be particularly good. The chapter on the morphology and chemistry of the blood, by Professor Müller, of Düsseldorf, not quite 30 pages, might with advantage have been extended, more especially by the introduction of further details regarding what the author calls the "Schutzstoffe des Blutes." Immunity, precipitins, and anaphylaxy, and such subjects give physiology an "Anhaltspunkt" in relation to pathology. The chapter on lymph, by Professor Spiro, of Strasburg, is none too long. The contributions by Professor Metzner, of Basle, on the skin—changed in its title from excretions to the more general title of functions—and on internal secretions are most commendable. In fact, the chapter on the internal secretions is one of the best condensed systematised accounts of this subject that we know of in any text-book of physiology. To the spleen, however, is given less than a page, which seems to us rather scanty treatment. Professor Zuntz himself gives a masterly account of metabolism, transformation of energy, and animal heat, all of which subjects are closely allied. Professor Cohnheim's account of the urine is sufficient, but we feel sure his account of the mechanism of its secretion would be improved by the introduction of some illustrations in the text. It should be noted, however, that for more comprehensive details he refers the reader to the article by R. Magnus in the "Handbuch der Biochemie."

We venture to make these suggestions, not in any captious spirit, but rather with the wish to be helpful in improving a "Lehrbuch" which must take a high place as such even amongst German text-books on human physiology. There is no bibliography in the ordinary sense, though a few standard reference works are named in the preface. It is with much cordiality that we welcome this new edition of a praiseworthy and up-to-date text-book on human physiology, and with some embarrassment that we find ourselves criticising its brevity, when an eternal call upon authors in such compendiums is that they should be brief.

Atlas der Hautkrankheiten. Von Dr. E. JACOBI, A.O. Professor und Direktor der Dermatologischen Universitäts-Klinik, Freiburg. Fifth edition, in two volumes. With 266 illustrations in colour and 2 in black and white. Berlin and Vienna: Urban and Schwarzenberg. 1913. Price, paper, 45 marks; bound, 50 marks.

THESE volumes require no introduction to our readers. Previous editions of Jacobi's dermochromes have been translated into English, and even before that time the beauty and lifelike representations of the illustrations recommended the volumes to the general practitioner as well as to the dermatologist in Britain and America.

The new edition is in many ways an advance upon the last edition which appeared in an English translation, even though the microphotographs of parasitic fungi which appeared in that edition are not reproduced in this latest German edition. On the other hand, Professor Jacobi has added a number of new pictures, among which may be mentioned rubeola, miliaria rubra, and gangræna diabetica. In his preface he states that some of the old plates had been worn out by frequent reproduction, and these have been replaced by new plates. Certain other pictures have been replaced by entirely new illustrations; for example, small-spored ringworm, kerion, eczema madidans, and lichen planus of the mucous membrane of the mouth. We have compared these with the last English edition, and entirely agree that the new dermochromes give a better representation of the clinical appearances of these diseases.

A few rare diseases have been added. Among these may be mentioned pellagra, oriental boil, sporotrichosis, and granulosis rubra nasi, all of which, as Professor Jacobi states, may be recognised from the pictures. His picture of hydroa vacciniformis gives the impression that the disease is always hæmorrhagic. The illustrations of pityriasis versicolor and chloasma are somewhat too pronounced a shade of brown. The picture of tricophyton annulare

affecting the smooth skin is not so good as the majority of the photographs. The second volume contains 82 pictures relating to syphilis, in place of the 35 which appeared in the last English edition in 1910.

We heartily recommend these volumes, with their lifelike representations of diseases of the skin, to all practitioners and students, as certain to be of use in daily work and study.

The Labyrinth: an Aid to the Study of Inflammations of the Internal Ear. By ALFRED BRAUN and ISIDORE FREISNER. With 34 half-tones on 32 plates and 50 figures in the text. London: Rebman, Limited. 1913. Pp. 250. Price 17*s.* 6*d.* net.

THE amount of attention which of late years has been bestowed on diseases of the labyrinth, and the enormous extent of the literature on this subject which has been placed before the profession, especially by writers in Austria, Germany, and Russia, have made it of extreme importance that a careful compilation such as has been evolved by Dr. Braun and Dr. Freisner should be put within the reach of English-speaking people.

The work is divided into six chapters, of which the first and second are devoted to a full and thorough consideration of the anatomy and physiology of the part. In the third chapter is carefully set out a compilation of the tests which have been put forward with much care and thought by such men as Bárány, Alexander, von Stein, and others, and it is to this chapter that the reader will direct his chief attention. The fourth chapter is devoted to pathology, the fifth to symptoms of labyrinthitis, and the final chapter to treatment.

The authors have carried out their task in a very satisfactory manner. The book is well illustrated, well printed, and well got up. It may be confidently recommended to aurists with the conviction that they will not regret having placed upon their shelves so important a book of reference.

Travaux de Chirurgie Anatomo-clinique. Par HENRI HARTMANN, Professeur à la Faculté de Médecine, Chirurgien de l'Hôpital Bichat, &c. Avec la collaboration de B. CUNEO et PAUL LUCÈNE, Professeurs Agrégés, Chirurgiens des Hôpitaux; KÜSS, Prosecteur à la Faculté; DELAMARE, V. HENRY et LEBRETON, Anciens Internes des Hôpitaux. Quartrième Série. *Voies Urinaires.* Avec 132 figures. Paris: G. Steinheil. 1913. Pp. 472. Price 16 francs.

Professor Hartmann is a voluminous writer, but all that he writes reaches such a good standard that no one can say that he writes too much, while his readiness to collaborate with other authorities shows the breadth of his interests. This volume is the fourth of a series of works which he has written in collaboration with others. The first dealt mainly with the surgery of the urinary passages, but it also treated of the surgery of the stomach; the second dealt with the kidney and the testes; the third was devoted to the intestine; and this, the fourth, is wholly concerned with the surgery of the urinary passages.

After a short account of the statistics by Professor Hartmann, Dr. Küss gives a valuable description of the normal anatomy of the prostate. Professor Cunéo discusses the anatomical site of prostatic hypertrophy, and he comes to the conclusion that the use of the title prostatic hypertrophy is not justifiable, and that it should be replaced by the name "periurethral adenomyoma," and he considers that the true prostatic substance is stretched out over the adenomatous mass, but it is more than doubtful whether the older name will be replaced. Professor Hartmann and Dr. Küss have written an interesting account of the various methods of removing a hypertrophied prostate. Dr. Küss has contributed a paper on the presence of portions of bone in the bladder, especially sequestra from the pelvis or vertebræ. The last 200 pages are devoted to an account of the operations on the kidney and ureter. In a short chapter Professor Hartmann and Dr. Victor Henry discuss the question of the advisability of operating on the kidney during pregnancy, and show both from theoretical considerations and also from practice that there need be no fear of harm resulting. Two cases are related in neither of which did any harm follow.

From what we have said it is clear that this book contains much of interest to all those who devote special attention to the urinary system.

Traitment d'Urgence des Maladies des Organes Génito-urinaires. Par les Docteurs J. FIOLLE, Professeur Suppléant à l'École de Médecine de Marseille, et P. FIOLLE, Ancien Interne des Hôpitaux et de la Clinique Urologique de Marseille. Avec 136 figures. Paris: J. B. Baillière et Fils. 1913. Pp. 288. Price 6 francs.

THE medical man at any time may meet with a case of urgency in which the affection is connected with the urinary organs, and he may wish to know at once what is the best thing to do; and this little book is intended to supply him with the necessary information. It does not concern itself with theories, but it gives full practical details of what should be done. Of course, opinions may differ as to what are emergencies, but on the whole it is better to include too much rather than too little. For instance, no one can deny that in such a work an account should be given of the treatment of retention of urine or ruptured urethra, but it is not equally certain that a description of prostatectomy is required, though some surgeons are of opinion that in certain acute cases a prostatectomy is better than suprapubic drainage. In each case of emergency the authors have described the method which they consider the best, and have not even referred to the other possible methods. In this we think they have acted wisely, for it is very much better for the medical man to have a clear course laid down for him than to have to choose between several different methods of treatment. The book is well written and fully illustrated.

A Short Practice of Midwifery. Embodying the Treatment adopted in the Rotunda Hospital, Dublin. By HENRY JELLETT, M.D., Master Rotunda Hospital, Dublin. Sixth edition. London: J. and A. Churchill. 1913. Pp. 619. Price 10*s.* 6*d.* net.

Dr. Jellett's "Short Practice of Midwifery" has met with a very favourable reception, and it is little wonder that a sixth edition is called for. It is an interesting work, as it embodies the teaching of the Rotunda Hospital and therefore has a value beyond that of the ordinary text-book. This edition has been thoroughly revised and brought up to date, and the complete statistics of the Rotunda Hospital for the years 1899 to 1911, including a total of 36,227 confinements, are given in an appendix. Among these there have been 170 deaths, or a maternal mortality of 1 in 214·39. The morbidity amounts to about 1 in 14 and the fœtal mortality to 1317, or 1 in 20·39. 485 children, or 1 in 55·38, were born alive but died in the hospital, while the total number born dead or dying in the hospital amounted to 1802, giving a mortality of 1 in 14·9. Some of the figures relating to the average occurrence of various abnormalities are very interesting. Thus we see that triplets occurred once in 7099 labours, placenta prævia once in 227 cases, eclampsia in 140 cases, or 1 in 258, while craniotomy was performed in 27 cases, or 1 in 1341, and Cæsarean 30 times, or 1 in 1207. An interesting table is given in which the causes of death are classified as due to purely obstetrical causes, pre-existing disease of the mother, and accidental causes, by which is meant causes such as various forms of sepsis which might have been avoided.

The book maintains its main characteristics, but the page

has been enlarged so as to enable better illustrations to be included. Dr. Jellett's teaching is eminently sound and practical, and this "Short Practice of Midwifery" can be safely recommended to students and practitioners.

Handbuch der Vergleichenden Physiologie. Herausgegeben von HANS WINTERSTEIN. Lieferung 34. Band I. Zweite Hälfte. *Physiologie der Körpersäfte und der Atmung.* Jena: Gustav Fischer. 1913. Pp. 481–640. Price 5 marks.

THIS part is largely occupied with the mechanics and innervation of respiration in certain invertebrate groups, such as insecta, including the diptera (and in this regard the excellent work of Miall is not forgotten) and lepidoptera. Breathing in the arachnoid or spider group is then considered, which brings to an end the text of Dr. Babák's contribution to respiration in the arthropoda. The literature on this subject alone extends to over 12 pages. The same processes are then considered in the mollusca (pp. 534–84), but in this case the literature extends to only five pages. Six pages are given to the tunicata, and thus the reader is led on to the acrania and to the cyclostomes. The "Fische," in the author's phrase, are very fully dealt with, both from a purely zoological and a functional point of view, as regards their respiratory movements and the gaseous exchanges between the water and the blood. This section should be interesting both to the zoologist and to the physiologist, and is lucidly written as well as copious in detail and in illustration. The respiratory rhythm of Trigla is specially informing, as is that of the dogfish. As in all the other "parts" of this comprehensive work, the inquirer is sure to find information even to the minutest detail.

A History of Nursing. Edited and in part written by LAVINIA L. DOCK. In four vols. London and New York: G. P. Putnam's Sons. 1912. Vol. III., pp. 340; Vol. IV., pp. 338. Price 21*s.* net the two volumes.

THE two volumes now before us are the third and fourth of the complete work. They deal with the development in various countries of the science of trained nursing, with special reference to the work of the past 30 years. Vol. III. includes nursing in our own country, in the United States, in Northern Europe, and in France; Vol. IV. deals with Germany, Switzerland, the Low Countries, Italy, Spain, the Nearer and the Further East, Australasia, and Canada.

Miss Dock's labours as editor have certainly been crowned with success, for the work is a most interesting record of the progress, not so much of the science of nursing as in the organisation and provision of trained nursing. This appears not only in hospitals, but in what may be called the social side of nursing—e.g., in our own country the Queen's Jubilee nurses, district nurses, and nurses attached to elementary public schools. Those of our readers who may have studied the life of the late J. M. Neale will remember the appalling state of things which existed some 50 years ago in the remoter parts of Sussex, and the difficulties against which the newly founded sisters of East Grinstead had to battle in combating outbreaks of typhus fever among the poor. Such a state of matters is inconceivable to-day. Miss Dock is a warm believer in the State registration of nurses, an end which has been more nearly reached in the United States than amongst ourselves. One of the most interesting sections in the work is that which deals with France, and amongst other matters with the work of that able woman, Dr. Anna Hamilton, at Bordeaux.

The section on Germany is mainly an account of the development of the organisation of the Free Sisters—i.e., an association of nurses not connected with any religious or charitable body—and their virtual founder, Sister Agnes Karll. In Italy the pioneers of the new nursing movement were Signora Anna Celli, Miss Amy Turton, and Miss Grace Baxter, ladies who, warmly seconded by (amongst others) Professor Celli and the Princess Doria, brought about a revolution in Italian nursing. Other sections of Miss Dock's book deal with India, Cuba, and the Philippines, in the latter two of which countries the Americans have done such good work. Japan also received her early training in nursing from Americans. Miss Dock's book should be for some time at least a standing work of reference on her subject. This being so, we must note that her statement on p. 3 that the first statute in connexion with the Poor-law in England was passed in 1601 is not correct. Between 1541 and 1601 there were passed 12 Acts dealing with Poor-law relief, and the Act of 1601, which remained substantially the law for the relief of the poor until 1835, was mainly a consolidation of previous Acts.

LIBRARY TABLE.

What Heart Patients Should Know and Do. By JAMES HENRY HONAN, M.D., Bad Nauheim. New York: Dodd, Mead, and Company. 1913. Pp. 204. Price $1.20 net.—The purpose of this book is stated by the author to be to give encouragement and hope to those who know they have heart trouble; to lead those who are unconscious that they have heart trouble to ascertain their deficiency or weakness without arousing their undue anxiety; to help both to make the most of their lives by avoiding those things which so often lead to the needless and tragic sacrifice of men and women; and to warn the well from doing those things which cause heart, blood-vessel, and kidney diseases. The author has much to say that is sensible and practical in regard to disease prevention, to bodily and mental relaxation, clothing, climate, exercise, diet, bathing, as well as to obesity and the various forms of cardiac and vascular trouble. The general note of the book is one of "sweet reasonableness," though in the chapter on diet we meet with some exaggerated statements as regards the ill-effects of coffee and tea, and in his comments on the use of alcoholic beverages the author seems to assume that all persons who use them must drink either spirits, beer, ale or stout, for he makes no mention of wines. He is not an extremist, however. He recognises that dietetics is not an exact science, and says that "laboratory tests and methods of food values, digestibility, &c., while valuable supplemental guides, will never become substitutes for clinical and personal experience." The book is likely to prove useful.

Dental Anæsthetics. By WILFRED E. ALDERSON, M.D. Second edition. Bristol: John Wright and Sons, Limited. Pp. 187. Price 3*s.* net.—Dr. Alderson's little book has deservedly entered upon a second edition. It is concise and clear, and well adapted to the requirements of students of dentistry, as might be expected, seeing that it represents lectures which he has been in the habit of giving at the Newcastle Dental Hospital and School. The principles throughout are sound and clearly put forward. Especially we would recommend to readers all that Dr. Alderson says against the employment of chloroform in dental work. With his account and criticism of gas and oxygen we are not quite so fully in agreement. Surely the difficulties in administration and the complication of apparatus are less than those involved in nasal administration; and the results, we are convinced, are far more to be relied upon. In speaking of nitrous oxide, both alone and with air or oxygen, the author rightly denounces the practice of reapplication after complete recovery, but he might with advantage have pointed out that so long as reapplication is made before any return of consciousness the practice is not only not injurious but often desirable, and permits of

extractions as long as those for which nasal administration is sometimes employed. The latter is less certain of success. As contraindications to the use of nitrous oxide, Ludwig's angina and allied conditions, apt to be associated with œdema of the glottis, might well be added to those given on p. 44. Similarly on p. 43, simple engorgement from congestion is a common cause which should find mention. In so small a book it is easy, of course, to find omissions. Dr. Alderson has few of any importance, and we wish the little work continued success.

Technik der ärztlichen Massage für praktische Aerzte. Von Dr. ANTON BUM, Privatdozent an der Wiener Universität. Illustrated. Berlin: Urban und Schwarzenberg. 1913. Pp. 112. Price 3.40 marks.—This little book is a practical guide to the performance of massage. It deals first with the physiological effect of each class of movement and then gives a description of its application to the several parts of the body, showing in illustrations exactly how the hands should be laid upon the patient, and indicating by arrows the direction in which the movements should be carried out. Chapter IV. deals in detail with regional massage, the face, the head and neck, the chest, the abdomen, and so forth, and Chapter V. with massage of the internal organs. The illustrations are clear and well executed, and are a great help to the comprehension of the descriptions.

MISCELLANEOUS VOLUMES.

SEVERAL little books for Territorial medical officers and officers of the ancillary organisations may be fitly considered together.

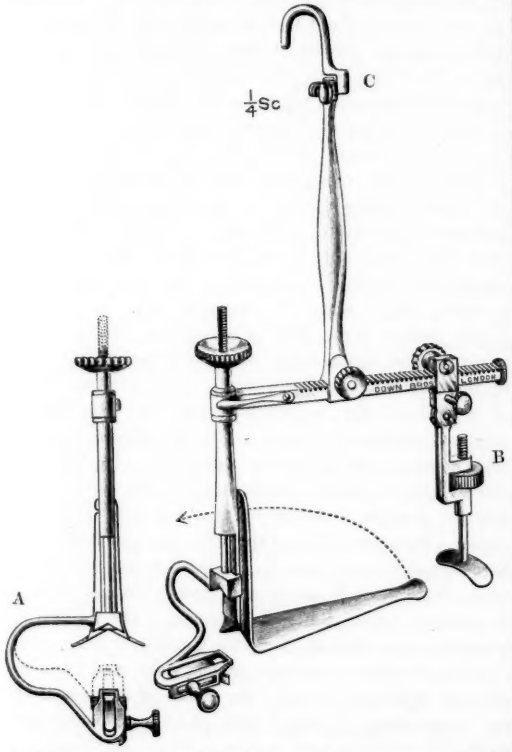
In *Voluntary Aid Detachments in Campaign* (London: Baillière, Tindall, and Cox. 1913. Pp. 77. Price 1*s.* 6*d.* net) Captain C. R. SYLVESTER BRADLEY, R.A.M.C., publishes a series of lectures dealing with the collection and disposal of casualties by the Territorial medical services and the Voluntary Aid Detachments. The lectures were originally delivered by him to non-commissioned officers and officers of those bodies respectively. This is not a manual of instruction in the duties of the rank and file, but a description of the organisation and administration of the work as a whole. Captain Bradley first enumerates the three zones that have to be dealt with by the Medical Service of the expeditionary force in a foreign country—viz., the collecting zone, the evacuating zone, and the distributing zone. He then points out that, in the event of mobilisation for home defence, the evacuating zone would have to be worked by voluntary aid. The units involved in this work are the clearing hospitals and rest stations, stationary hospitals, ambulance trains, medical store depôts, and convalescent depôts, for which the Territorial division of the Royal Army Medical Corps is not equipped. Captain Bradley therefore explains the organisation of these units in the expeditionary force, and indicates how voluntary aid may be best utilised to fill the gap in the Territorial chain of military medical assistance. He describes the duties of the *personnel*, the medical and surgical equipment recommended for voluntary aid hospitals on mobilisation, gives some hints for peace training, and concludes with extracts from the Geneva Convention. There is one verbal criticism we would make. It seems scarcely accurate to say that "we go to war to kill as many of the enemy as possible." Surely the object nowadays is simply to render them ineffective for fighting purposes. True, that involves much killing, but killing is only a means, not the object. Captain Bradley, of course, realises this, but the expression is likely to arouse antagonism on the part of many who might be willing to engage in the humaner work of warfare. The book will be a very useful one.—*Field Service Notes for R.A.M.C.* (London: John Bale, Sons, and Danielsson, Limited. 1913. Pp. 94. Price 2*s.* 6*d.* net), by Major T. H. GOODWIN, R.A.M.C., will prove of service to junior Royal Army Medical Corps officers, and as a reference pocket book will be of value to all officers. It contains the details of war establishments of the army and of medical establishments, in the latter case both of *personnel* and material. Its diagrams show the plotting out of dressing stations, tent subdivision encampments, operating tents, and the packing of store wagons. There is information concerning signals, army forms and books, and loads, the details of the various hospitals, evacuation averages, the staff, sanitary organisation of field units, supply service in the field, railway transport, billeting, horse management, map reading, and mobilisation. The book consists essentially of notes and formulæ—"constants." For officers of the Territorial Forces and the Voluntary Aid Detachments it will, in a sense, be complementary to Captain Bradley's book, which presents, as it were, the gross anatomy of the military medical organism, while Major Goodwin's book fills in the picture down to the smallest histological detail. A study of the two books, first mastering Captain Bradley's broad outline, then the detail, section by section and under practical instruction, as presented by Major Goodwin, should make a highly efficient Territorial and Voluntary Aid Detachment officer.—A useful little book on the same subject is *Field Sanitation for Territorial Officers* (London: Gale and Polden. 1913. Pp. 34. Price 1*s.* net), by Lieutenant-Colonel C. AVERILL, V.D., M.D., D.P.H. It supplies in concise form the most important points of detail in the field sanitary organisation for the Territorial Force. It is also a useful *aide mémoire* for the officer commencing the study of the subject. It will be of service both to medical and combatant officers, not only as affording a general view of the matters that need attention, but as refreshing their memories from time to time. On occasions when an officer's *impedimenta* are strictly limited it may suffice for practical requirements, though as a general rule it is well to be in possession of the official regulations and instructions, of which this is a summary.—We have before us of the same class still another excellent little book for those for whom it is intended in *Hints for Regimental Medical Officers of the Territorial Force* (London: Forster, Groom and Co., Limited. 1913. Pp. 39. Price 1*s.* 6*d.*), by Captain M. F. GRANT, R.A.M.C. Captain Grant's remarks on the importance of the regimental medical officer getting busy on the work of the annual training a month or more before the date fixed for camp are cogent, and this vest-pocket book will guide the inexperienced in the matter. The instruction given as to duties is very comprehensive.—In this connexion may also be mentioned the *Skizzen eines Feldarztes aus Montenegro* of Dr. HERMANN VON SCHRÖTTER (Berlin und Wien: Urban and Schwarzenberg. 1913. Pp. 88. Price 3 marks). This interesting brochure of 80 odd pages, profusely illustrated, contains much valuable information as regards the working of the Red Cross in Montenegro during the recent war, and shows well how much has yet to be done, especially in the East, in bringing this work to a greater state of efficiency. Ingenuity has yet to provide more efficient means of transporting wounded in mountainous districts and across stone-strewn localities. It was the same in Turkey, where ordinary carriages were used for bringing wounded from the railway station up the hilly, ill-paved streets to the several hospitals, and the amount of suffering entailed was immense. The improvisation of material for wounded persons is a subject upon which too great attention cannot be bestowed, and a very interesting double inclined plane used for fractures is illustrated on page 62. This paper fully bears out the great wrong that

results from sending un-uniformed reservists to the front. It ought never to be allowed, for when falling captive into the hands of the enemy they are immediately shot down, as they cannot be distinguished from armed peasants. Every war that occurs teaches us something new as regards military surgery. As long as armaments and warfare generally alter in character, so long will the injuries arising therefrom alter also, as well as the modes of best dealing with them. Epidemics of typhoid, cholera, and dysentery will frequently occur, and how best to combat and prevent these may be the problems present of any campaign; but military surgery must inevitably alter, and it is absolutely necessary for the military surgeon, whatever the terms of his employment, to keep abreast of the times.

New Inventions.

HOOK SPATULA FOR SUSPENSION LARYNGOSCOPY.

THIS instrument is a modified form of Killian's. The following are the main advantages in the present apparatus. 1. The opening A is twice as wide, being 2 in. as against 1 in.; the wider view obtained is especially useful in operations in the deep pharynx and upper aperture of the larynx. 2. The counter pressor B runs on an arm and is adjustable; this has proved of great advantage in the presentation of the anterior commissure. 3. A swivel joint has been inserted at C.



4. Small modifications have been made in the size and width of the spatula and in the adjustment which rests against the teeth.

Messrs. Down Brothers, 21 and 23, St. Thomas's-street, London, S.E., are the makers.

WALTER HOWARTH, M.B., B.C. Camb., F.R.C.S. Eng.
Harley-street, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on July 10th, Sir RICKMAN GODLEE, the President, being in the chair.

The PRESIDENT reported the result of the election of four members of Council, as already recorded in THE LANCET, and he stated that Mr. L. A. Dunn being third on the poll became substitute member of Council for the late Mr. C. T. Dent until 1919, and that Mr. Hutchinson being fourth on the poll became substitute member of Council for Mr. Bruce Clarke until 1915.

Mr. Lane, Mr. Dunn, Mr. Hutchinson, and Mr. Waring were introduced, made declarations in the terms of the oath prescribed by the Charter of 1800, and took their seats in the Council.

The SECRETARY reported the death on June 23rd, at the age of 85, of Sir Jonathan Hutchinson, LL.D., F.R.S., past President and past member of the Council and Court of Examiners. The following resolution was passed:—

That the Council hereby express their deep regret at the death of Sir Jonathan Hutchinson, and their sincere sympathy with the members of his family in their bereavement.

The Council remember with gratitude the many services rendered by Sir Jonathan Hutchinson to the College as its President and as a member of the Council and of the Court of Examiners, and do also record their appreciation of his untiring industry, the extent and accuracy of his observations, his eminence in many of the special departments of surgery, and the important discoveries which will always be associated with his name.

The Council feel that the College has lost one of its most illustrious Fellows, and one for whom the highest regard was entertained not only by Fellows and Members of the College, but by the medical profession in this country and in every part of the civilised world.

The SECRETARY reported the death on June 30th, at the age of 76, of Mr. Alfred Willett, past Vice-President and past member of the Council. The following resolution was passed:—

That the Council hereby express their deep regret at the death of Mr. Alfred Willett, and tender their sincere sympathy to Mrs. Willett and the other members of the family in their bereavement.

That the Council do also record their appreciation of the many services rendered by Mr. Willett to the College in the conscientious discharge of the duties which devolved upon him as a Vice-President and member of the Council.

The Council have not forgotten the respect and affection which his sterling character and genial presence inspired.

On the recommendation of the Museum Committee it was resolved to purchase two sets of casts of the fragments of the human skull found at Piltsdown, Sussex, and a model of the reconstructed skull and a cast from the brain cavity. It was also resolved that a revised edition of the Museum Guide with additional illustrations should be printed, and that the price of the guide should be 1*s.* a copy.

It was resolved to appoint Mr. E. Hugh N. Wilde the solicitor to the College in succession to Mr. Ernest J. Wilde, who had held the post for many years. The Council elected Mr. W. G. Spencer a member of the Board of Examiners in Dental Surgery.

The PRESIDENT stated that the vacancy of an Examiner in Physiology for the Fellowship occasioned by the resignation of Professor Francis Gotch would be filled at the next meeting of the Council. Sir Frederic Eve was elected, and Sir Alfred Pearce Gould and Mr. R. Clement Lucas were re-elected members of the Executive Committee of the Imperial Cancer Research Fund.

Mr. R. Clement Lucas was appointed a representative of the College on the Council of the Queen Victoria's Jubilee Institute for Nurses.

The following appointments were made:—Hunterian Professors: Arthur Keith (six lectures), Hastings Gilford (two lectures), Charles Mansell Moullin (one lecture), Ernest William Hey Groves (one lecture), Arthur Rendle Short (one lecture), and Harold Beckwith Whitehouse (one lecture). Arris and Gale Lecturers: Frederic Wood Jones (two lectures), and David Waterston (one lecture). Erasmus Wilson Lecturer: Samuel George Shattock. Arnott Demonstrator: Arthur Keith. Odontological Demonstrator: James Frank Colyer.

Sir Rickman Godlee was re-elected President, and Mr. G. H. Makins and Sir Frederic Eve were elected Vice-Presidents for the ensuing year.

THE LANCET.

LONDON: SATURDAY, JULY 19, 1913.

The Friendly Societies and the Growth of Malingering.

Mr. A. H. WARREN, President of the National Conference of Friendly Societies, has issued a memorandum upon the working of the National Insurance Act which contains a plea for the amendment of Clause 15, the clause which commits the administration of medical benefit to the Local Insurance Committees. Mr. WARREN'S action arises out of the growth of malingering which the present methods of administering the medical benefits are alleged to favour. It is unnecessary to say that the amendment which Mr. WARREN especially desires is the transference of the administration of medical benefit from the Local Insurance Committees to the Approved Societies, and it cannot be too clearly stated that, whatever fault Mr. WARREN may find with the Act, and whatever suggestions for amendments of those faults he may put forward, one of the best features of the measure is the release of medical men engaged in contract practice from the tyranny of Friendly Societies and medical aid associations. The very large insured public can now exercise a real choice in the matter of their medical attendant, and Mr. WARREN is wasting his time in attempting to regain for medical clubs their former position as employers of the doctor. Not only did that system largely deprive the members of the clubs from obtaining any medical advice save from a particular medical man, but the plight of the medical man under the domination of lay authorities was in many respects unfortunate. The medical profession will not go back to the old way.

The plea put forward by Mr. WARREN for the restoration to the Friendly Societies of the right to administer medical benefit—a right which he states was actually promised by the Chancellor of the Exchequer—is founded upon the fact that the claims in respect of sickness made during the first six months of 1913 have been so enormous that absolute financial ruin, in his opinion, will overtake the Friendly Society movement unless some drastic steps are taken to alter the present condition of things. Having regard to the good work done by Friendly Societies in many directions, we regret to learn that their financial plight is so parlous, but to restore to these associations their old predominance over medical practice would now be absolutely impossible. For many years a large section of the medical men who were employed by the medical aid associations were not well treated; they were in numerous instances placed in a ridiculous position of subserviency, and were ill-paid, while deliberate attempts were made in some of the localities where they resisted such treatment to import medical practitioners to assist in the coercion of their professional colleagues. These things have not been forgotten. It is not with any pleasure that we re-tell this old story, but it will have to be told whenever there is any suggestion of reviving by Act of Parliament a condition of things which was as unfortunate for the public as for the practitioner. Medical men are not entirely satisfied with the constitution of the Local Medical Committees set in authority over them, but they recognise the difference between the jurisdiction of these bodies and service under the secretaries and officers of clubs. We do not understand in what way such an unfortunate step backwards as the Friendly Societies desire would lead to a lessening of malingering. Of course the suggestion is that a large proportion of the money required for sickness benefits is now being spent upon imaginary disease or upon its wilful imitation, inasmuch as medical men, freed from the wholesome guidance of the medical clubs, are unable or unwilling to cope with the evil. To begin with, the real cause of all the increased claims upon medical benefit is not the deliberate malingering of the insured. We do not for a moment say that this unsocial and dishonest offence is not occurring, but it is only one of the factors that have led to the financial insecurity of Friendly Societies, and if these bodies had the administration of medical benefits in their own hands the main difficulties would still exist. The inclusion among the insured of masses of persons who before the Act belonged to no society or medical aid association simply because no organisation of the kind would accept the risk of providing unhealthy subjects with medical benefits for the inclusive fee of a few shillings a year, is mainly responsible for the increased expenditure, while the systematic examination of a large proportion of the population has revealed an unexpected amount of sickness. The old members of a good many Approved Societies were to a large extent picked lives, and it stands to reason that a much smaller demand was made by them on the funds of their clubs than is now made. Old members, again, of a medical aid association were an exposition of voluntary coöperative thrift, while the present members are a more or less accidental aggregation of compulsorily insured persons, and undoubtedly a great difference of attitude must be produced by this difference of circumstance. To trespass unduly upon the common funds would have seemed in times past an indelicate action to many of those whose avowed intention it now is to get as much as possible out of National Insurance. The medical aid associations and Friendly Societies can recover neither their previous constitution nor their ancient spirit, and could not act more effectively to reduce the claims of sickness if the vast responsibity for which they plead were placed upon them.

Mr. CHARLES E. S. FLEMMING, dealing with the question of malingering in connexion with the National Insurance Act, has written an interesting letter to the *Times* suggesting the appointment of medical referees to meet the difficulties. He points out that malingering and uninhibited valetudinarianism are becoming very common, and we agree with

him in attributing a part of their prevalence to-day to the Employers' Liability Act. This Act has decidedly in its present state of working done much to increase a simulation of sickness and disease. Mr. FLEMMING considers that the only satisfactory remedy will be the appointment of medical referees upon a satisfactory scheme worked out to their mutual benefit between Approved Societies and medical men. There is a great deal to be said for this suggestion, and something of the sort may have to be done if the present state of things continues, though how exactly it would be possible to make satisfactory use of medical referees does not appear very clear to us. It is our belief that the demand on medical service will not continue to be so severe.

The Amalgamation of St. George's and the Westminster Hospitals.

AT a meeting of the governors of St. George's Hospital held in the board room on July 10th, under the presidency of Mr. A. WILLIAM WEST, treasurer of the hospital, resolutions expressing the desirability of amalgamating with Westminster Hospital were discussed and adopted. In opening the proceedings the chairman stated that an offer had been received to purchase the land upon which the hospital now stands for £460,000, subject to a satisfactory arrangement with the DUKE of WESTMINSTER for his right of pre-emption over a certain portion of the site. The joint subcommittee of St. George's and the Westminster Hospitals are unanimously of opinion that the amalgamation and removal of the two hospitals to another site are desirable. The subcommittee are also of opinion, we learn, that of two sites which they have in mind—one at Clapham Common and another near Wandsworth Bridge—the balance of advantage is in favour of the latter site, but no doubt the merits of one or the other locality will be publicly stated in due time. The great argument in favour of removal of St. George's Hospital from Hyde Park Corner is that the charity is no longer in touch with the poor, whereas by removal to what not so long ago were regarded as suburban districts the institution could be brought within a stone's throw of the district from which most of the patients come. With regard to the financial side of the scheme, Mr. WEST said that should the sale of the sites of the two hospitals take place, the invested funds and property of the two institutions would, leaving on one side any reversionary interests, after purchasing a new site of about eight acres and building a new hospital with 500 beds, produce for them an endowment fund of between £850,000 and £900,000. It is proposed not to entirely desert the old district, but to establish for first-aid treatment a centre to which any accident cases in that neighbourhood can be taken and from which they can be removed to the new hospital.

The resolutions at the meeting expressed the views that amalgamation was desirable, and that a contract for the sale of the site should be entered into, and stipulated that the governors of the two hospitals should become governors of an amalgamated institution, and that the consultant and honorary staffs of the two hospitals should retain their positions. There is something dramatic in the fact that after a lapse of 180 years St. George's Hospital and the Westminster Hospital should come together again, for, as may or may not be generally known, St. George's Hospital was an offshoot of the Westminster Infirmary founded in 1715 under the title of the Westminster Charitable Society. This institution had its headquarters, after one or two changes of address, in Chapel-street, Westminster, but in 1733, finding the premises too small, a minority of the medical staff seceded, migrated north, and took possession of Lanesborough House, which then stood surrounded by meadows very nearly on the site of the present building. The choice of site is said to have been determined by the healthiness of the position, for Knightsbridge, we are told, was famous as a locality "where is good air for cure of consumptions, melancholy, and other infirmities," and this fame is perpetuated by the title of the road from Hyde Park Corner to Buckingham Palace, which is Constitution Hill. The venture was successful from the beginning, the seal of scientific success being put upon it by the presence on the hospital staff of JOHN HUNTER, MATHEW BAILLIE, and EVERARD HOME, while EDWARD JENNER was among JOHN HUNTER'S most famous pupils. WILLIAM CHESELDEN appears to have been a link between the separated medical schools, as both claim him upon their staffs, the other famous Westminster men at the time of the rupture being the great RICHARD MEAD in a consulting capacity and BENJAMIN HOADLEY.

It is not at all surprising that there should be a general feeling of regret expressed at the rupture of associations implied in transferring the Westminster Hospital from its magnificent situation opposite the national Abbey and St. George's Hospital from its historic position by the tollbars of Hyde Park Corner. At the latter institution the wisdom of moving from an unsuitable district and of utilising the enormous money value of the site has long been talked about, but obvious as the economical advantages of the scheme were seen to be, financial difficulties as well as deep sentiments have been against the change. At last the advisability of the drastic steps now taken by both charities became generally apparent, for of late two things have become concurrently obvious to all. The first is that the poor, in the midst of whom or in immediate contact with whom a general hospital, should have its place, have largely disappeared from the immediate area of St. George's Hospital, while the neighbourhood of the Westminster Hospital is seen to be fully served by other institutions. Hospitals cannot live by ministering to highly paid domestic servants whose needs are to a great extent catered for by the National Insurance Act. The second is that the increase in the facilities for travelling in London makes distance from the residential quarters of the honorary staffs a less serious matter than formerly. There is no doubt that the honorary staffs will be asked to put up with a great deal of inconvenience by having their arduous duties to perform at Clapham or Wandsworth instead of at Westminster or Hyde Park Corner, but it will be recognised that this is a difficulty which has no longer the force that it had 25 or even five years ago.

Annotations.

"Ne quid nimis."

THE PETROL HAZE OF THE STREETS.

ATTENTION may be drawn to the increasing murkiness of the atmosphere of the streets arising from the incomplete burning of the petrol in the motor engine. As most of the vehicles in the metropolis are now propelled by motor, the nuisance is rapidly increasing, and it will do so until the facilities of combustion in the motor engine are improved. In stagnant conditions of weather, as on a fine sunny day or during a windless drizzle of rain, quite a haze of petrol fumes accumulates, which is very unpleasant to the pedestrian. Such an atmosphere is, of course, inimical to healthy conditions. Unburnt petrol or partially burnt oil is frequently present in notable quantity, which is not favourable to healthy respiration, and a suspicion has been entertained that the presence of so much oil in the air disturbs the protective qualities of paint. Modern traffic has, in fact, introduced a totally new condition of things in regard to the state of the air in the streets, and it will not be surprising if in the long run mischief in more than one direction comes to be traced to the acrid fumes which are accompanying the motor traffic. We anticipated some years ago that the contamination of the streets would pass from a purely physiological kind to one of a chemical nature as we discontinued horse traffic in favour of motor traffic. That has practically come to pass. We have to deal now with the products of the imperfect combustion of a hydrocarbon, whereas formerly the offences of street traffic arose mainly out of animal products. To an extent this latter pollution was dealt with satisfactorily by our sanitary authorities, but little success appears to have attended any attempt to suppress the production of motor fumes. It is, at all events, common enough to see motor vehicles discharging into the streets from their exhaust tube a succession of rapid puffs of smoke with an evil smell. In the case of modern motor traffic the remedy lies in prevention by the perfection of the machine, or in the retention of a driver qualified to control the working of his combustion engine. In the case of horse traffic the evil could not be prevented, but the best measures were taken to minimise it. From a chemical point of view it would not be surprising if analyses of the air of London streets came to show in terms of carbonic acid gas, hydrocarbons, and probably carbon monoxide, a much worse state of affairs than existed when the horse was exclusively used for vehicular traffic. Improvements have, however, manifestly been made during the past few years in the engines of the motor-car, and we may hope that soon they will be rendered practically fumeless, which will imply a more economical use of fuel in addition to the suppression of an obvious nuisance.

ARSENIC CANCER.

THE interesting case recently recorded by Mr. R. J. Pye-Smith and the discussion that followed at the Clinical Section of the Royal Society of Medicine call attention to a risk which is perhaps hardly appreciated sufficiently in medical practice—namely, the possibility that serious mischief may follow the prolonged use of arsenic in the treatment of chronic affections of the skin. Psoriasis is the disease for which such a use of the remedy is most often made, and it is in those who have suffered from this malady that epitheliomatous developments have most frequently been recorded. The first observer to direct attention to the sequence was the late Sir Jonathan Hutchinson, and some 30 cases are now on record. In Mr. Pye-Smith's case the patient was a woman, aged 29, who had been treated for psoriasis from the age of 7 to 14. No ill-effects were apparently observed until eight years later, when a condition of hyperkeratosis developed, with warty growths scattered over the skin. The first appearance of epithelioma was on the finger where the patient constantly wore her wedding ring, this possibly acting as a local irritant. Later on, malignant ulcers developed on the neighbouring finger, on the pubes, and on the labia minora, this appearance of multiple growths being characteristic of the arsenical affection. In spite of operative removal death occurred, apparently from internal metastatic growths, about two years after the woman first came under medical treatment. The exact method of causation of the form of cancer associated with arsenic is not certain. A direct influence as a stimulant to epithelial growth is possible, the element acting as what Mr. H. C. Ross has termed an auxetic or producer of cell-division. More probably the process is indirect, the poison first tending to cause degeneration of the cells of the skin, and the products of their destruction constituting the stimulus to undue proliferation of epithelium. The clinical sequence would seem to be, first, hyperkeratosis or heaping up of the horny layer of the skin, then formation of fissures in the diseased epidermis, with subsequent invasion of these by parasitic bacteria. Ulcers are then formed, in the edges of which epithelioma develops. The use of arsenic for psoriasis is probably less general in these days than it was some years ago, but even now it is not uncommonly used for this affection and also for chorea over somewhat prolonged periods. New arsenical compounds have also been introduced, such as salvarsan and atoxyl, which may not be free from danger, though they are usually given in comparatively short courses. It is therefore well to bear in mind the possible ill-effects of arsenic and carefully to watch for the appearance of any signs of thickening of the skin, which should lead to immediate suspension of the drug. It is noteworthy that in Mr. Pye-Smith's case the onset of the skin affection was only noted many years after the treatment had been discontinued, a somewhat disquieting circumstance suggesting that even such a warning may come too late, and that the safer rule would be to avoid altogether the prolonged use of arsenic.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AT the recent election of officers and council of the Society of Tropical Medicine and Hygiene Sir R. Havelock Charles was elected president for the next two years, and Dr. F. M. Sandwith vice-president. The Society has been in negotiation with the Royal Society of Medicine with reference to the suggestion that it should become the Tropical Section of the latter body. We are now informed that the council of the Society of Tropical Medicine and Hygiene, after giving careful consideration to the matter, are of opinion that for many reasons it is desirable that the Society should retain its independence. A memorandum carefully explaining the facts of the case will be sent to all Fellows of the Society of Tropical Medicine and Hygiene, who will be asked to record their votes "For" or "Against" amalgamation, and the result will not be declared until after Nov. 1st, the latest date for votes to be received. It has been decided that no change shall be made unless there is a three-fourths majority of the Fellows who take part in the ballot. The Society of Tropical Medicine and Hygiene has only been in existence six years, and we understand that it has on its books over 600 Fellows, so that it can justify a separate existence from the point

of view of numerical strength. The question which has to be decided is whether, as an integral part of the Royal Society of Medicine, its work would not gain in breadth.

THE TREATMENT OF TUBERCULOSIS ON FRIEDMANN'S PLAN.

BEFORE a recent meeting of the Berlin Medical Society Dr. Westenhöfer, pathologist to the Moabit Hospital in Berlin, showed specimens derived from a case of tuberculosis which had been treated by Dr. Friedmann, whose claims have been several times alluded to in these columns. The subject of the post-mortem investigation was an American medical man who had a severe hæmorrhage in the street and was conveyed in a moribund state to the hospital. According to the report of the companion of the deceased, who was a medical man also, the patient had had an intragluteal injection of Dr. Friedmann's serum three weeks ago and felt comparatively well. The necropsy showed a number of cavities, of which one enclosed an aneurysm of the pulmonary artery, which had burst and so produced hæmoptysis. There were numerous miliary tubercles and disseminated foci of connective tissue, and certain symptoms of healing were present together with progress of the tuberculous mischief. An incision into the place of the injection in the gluteal region showed marked tuberculosis. There were tubercles, giant cells, and bacilli, which were shorter and thicker than human tubercle bacilli. The question is whether the tuberculosis at the place of the injection must be regarded as a direct sequel to the injection or only as a symptom of the general tuberculosis. Primary tuberculosis of the muscles is extremely rare, and it is significant that tuberculosis should have developed at a spot where an alleged antituberculous remedy had been deposited, especially when we remember that in a guinea-pig where the injection had been performed by Dr. Friedmann himself, tuberculous manifestations had appeared at the point of the injection. Arising out of this discussion of the case a motion was brought forward to have Dr. Friedmann's "cure" examined into by a special commission of the Berlin Medical Society, but the proposal failed to find support.

THE WEIGHT OF INFANTS AT BIRTH.

Dr. H. J. Hansen, of Nykobing-on-Sealand, by means of an investigation which was carried on in the district in which he practises, has been able to collect some valuable statistics with respect to the weight of newly-born infants. He enlisted the services of a number of midwives in his neighbourhood and supplied them with forms which they were requested to fill in with appropriate figures. The investigations were continued for ten years (1900–1910) and the report[1] now published refers to the weight of 5979 babies. The general results, as far as rural cases are concerned, show that the average weight of male infants was 3696 grm., while that of female infants was 3542 grm., the weights in both cases being between 8 and 9 per cent. higher than in town babies. The author refers to the various factors which may be considered to have an influence on the weight. The age of the mother appears to exercise a definite influence; speaking generally, the older the mother the greater the weight of the infant at birth. But this law is modified by the number of previous pregnancies; for the larger the number of previous pregnancies the greater the weight of the infant, and this latter factor altogether preponderates over that of age. The age of the mother at the time of the first pregnancy is another matter with which the author deals. It seems that the age-group 30–34 years is the optimum period for the beginning of child-bearing as judged by the criterion of the weight of the first five or six children. In the case of this age-group there is a definite decline in weight after five or six children have been born. The economic conditions obtaining in the home also influence the birth weight; making certain corrections for the age of the mother and the number of previous pregnancies the figures show that the children of the well-to-do classes are considerably heavier than those of the extremely poor. But this rule does not hold good after six children have been born. Making allowance for the three factors with regard to which the author made special inquiry—namely, the age of the mother, the number of previous children, and the economic conditions—the conclusion that illegitimate children are on the whole of less weight than legitimate children may be deduced from the statistics. It further appears that seasonal conditions are factors in the question; on an average babies born in the autumn are heavier than those born in the spring. In an appendix the author considers the relative numbers of males and females and the factors which determine these differences. Among other things he finds that the younger the mothers are on beginning child-bearing the greater is the proportion of boys.

[1] Investigations in the Weight of New-born Children, by H. J. Hansen, published by the Anthropological Society of Copenhagen, 1913.

UNILATERAL LARYNGEAL PARALYSIS.

READERS of the discussion at the Laryngological Section of the Royal Society of Medicine, which is published in the last volume of the "Proceedings," will probably be surprised at the lengthy list of affections which may give rise to paralysis of one vocal cord. Roughly grouped, they embrace bulbar lesions, neuritis of the vagus or recurrent laryngeal nerve, pressure from tumours either situated in the thorax, the neck, or the skull, traumatism including surgical operations, and a miscellaneous group of conditions including pericarditis, pleurisy, and tuberculosis of the lungs, and cardiac disease with dilatation of the left auricle. Statistics collected by different observers agree fairly closely as to the comparative frequency of the various causes most often encountered. Paralysis of the left cord is due in the largest group of cases to aneurysm of the aorta, other common causes being malignant disease of the œsophagus or lung, affections of bronchial glands, and spinal diseases, such as tabes dorsalis, disseminated sclerosis, and so forth. On the right side malignant disease of the œsophagus seems to be the most important cause of laryngeal paralysis, spinal diseases probably ranking next in frequency. The left cord is paralysed much more frequently than the right, doubtless owing to the anatomical relations of the recurrent laryngeal nerve on this side, which winds round the arch of the aorta and comes into intimate relations with the bronchial and mediastinal glands as well as with the vessel. A group of cases of obscure origin is put down to the vague explanation of toxæmia, a certain number of instances occurring in which recovery takes place and no definite cause can be ascertained. They may perhaps be compared with cases of facial paralysis in which a rheumatic origin is often assumed, the term being little more than a convenient cloak for ignorance. The reality of the association of laryngeal paralysis with dilatation of the left auricle of the heart, as in cases of mitral stenosis, seems to be admitted by laryngologists, and cases were quoted at the meeting in which this mode of causation was probable. The possibility of glandular enlargement in such instances must be borne in mind, and in one of the recorded cases X ray examination showed opacity in the posterior mediastinum. A similar alternative is obviously to be considered in cases which are attributed to tubercular disease and accompanying pleurisy at the apex of the lung. The recurrent laryngeal nerve does not lie in very close

relation to the pleura, though some extension of inflammation might occur to the mediastinal contents; but enlargement of bronchial glands is almost always present in these conditions, and pressure on the nerve or involvement of its sheath might easily occur. An interesting suggestion was made by Sir David Ferrier that the frequency of abductor paralysis rather than affection of adduction in cases of organic disease was comparable with the liability of the extensor muscles to suffer more than the flexors in peripheral paralysis, but the analogy was not acceptable to Sir Felix Semon, who also doubted the peripheral origin of affections of the nerve in tabetic patients.

THROMBOSIS OF THE ABDOMINAL AORTA.

AT a meeting of the Société Médicale des Hôpitaux of Paris on May 23rd M. A. Clerc and M. G. Clarac reported a case of a very rare, though well-recognised condition—thrombosis of the abdominal aorta. The patient, a woman aged 65 years, was admitted into hospital on April 2nd, 1913. Since March 30th she had suffered from painful and complete paraplegia. On examination the whole right lower limb was cyanosed except the internal part of the foot and the first three toes, which were livid. On the posterior surface of the thigh was a bedsore of the size of a two-franc piece. The left lower limb was similarly affected, but the arrest of the circulation had not extended beyond the lower third of the thigh. The cyanosed skin was as cold as that of a corpse. Arterial pulsation was absent on both sides even above the crural rings. The patient complained of acute pain in the legs, especially in the right, which was increased by attempts to move them. On the other hand, there was complete anæsthesia, a prick not being perceived until the level of the abdomen was reached. The reflexes were abolished on both sides, excepting the left knee-jerk, which was exaggerated. The rest of the arterial system seemed little affected; palpation of the various superficial vessels did not show any manifest induration. The extremities of the upper limbs, the cheeks, the lips, the nose, and the ears were cold and cyanosed. The pulse was rapid and filiform and the cardiac action was irregular. The rectal temperature was 98·6° F. Palpation of the abdomen, which was difficult in consequence of obesity, did not reveal any tenderness or meteorism. There was no vomiting, diarrhœa, or melæna. There was complete retention of urine; catheterism yielded 800 grammes which contained some albumin. The history was that in the winter of 1911–12 she had suffered from transitory hemiplegia. On March 30th, 1913, she was seized with violent pains in the lower limbs, which were followed rapidly by paralysis and arrest of the circulation. After admission the cyanosis of the lower limbs increased and the retention of urine persisted. The patient became comatose on the night of April 8th and died on the following morning. At the necropsy the small intestine was found cyanosed from the lower part of the duodenum downwards, but its contents were not sanguineous; its vessels were not occluded. The large intestine, on the contrary, looked normal. There was slight hypertrophy of the right ventricle and a little thickening of the aortic valves. The heart and the whole aorta were removed together. There was no cardiac thrombosis. The aorta was of irregular calibre with slight dilatation at the arch and termination of its abdominal portion. On palpation a hard body was felt in its interior extending from the level of the renal arteries to the bifurcation. On opening the vessel this was found to be a hard blackish clot which did not adhere at any point to the aortic wall. The aorta was atheromatous throughout; there were ulcers and calcified spots which showed numerous little deposits of fibrin. Microscopic examination of the spinal cord by Nissl's method did not reveal any cellular lesion but marked vascular troubles; above the ninth dorsal segment the vessels of the cord and meninges were dilated; below it there was manifest ischæmia with some extravasation of blood, though no focus of hæmorrhage or disintegration. In the right cerebral hemisphere was an old focus of softening. The symptoms resembled those observed in previous cases of occlusion of the abdominal aorta, except that there was no premonitory period of intermittent claudication. The exaggeration of the left knee-jerk was probably due to the old hemiplegia. Digestive troubles, which have been described by some writers, were absent.

THE BUREAU OF SCIENCE, MANILA.

AN idea of the excellent work done by the Philippine Bureau of Science, Manila, may be gained by a perusal of its eleventh annual report recently issued by Mr. Alvin J. Cox, M.A., Ph.D., the acting director. In the biological section extensive investigations on plague with cultures and pathological material brought from Manchuria are mentioned, the publication of which is announced in Section B, No. 3, of the *Philippine Journal of Science*. These investigations cover the method of transmission of pneumonic plague, the influence on it of atmospheric pressure, the portal of entry and method of development, clinical observations, the bacteriology and pathology clinical and experimental, the susceptibility of animals to and protective inoculation against pneumonic plague, the infection of various animals with graduated doses ranging from one bacillus upwards, and experiments to determine the efficacy of various protective masks. Other investigations supply fresh experimental evidence bearing on the etiology of polyneuritis (beri-beri) in man, and embrace such subjects as the parasitic and pathogenic characters of various entamœbæ, surra, Addison's disease, adrenal tuberculosis, non-parasitic cysts of the liver, and rabies. Much work is done by the laboratory in the investigation of intestinal parasites and the preparation and use of various sera. It is to be feared that the publication of some of these results, which is announced to be made in the *Bulletin of the Manila Medical Society*, will unfortunately be indefinitely postponed, if not entirely foregone, owing to the disastrous fire the occurrence of which has been mentioned in THE LANCET. Besides the medical work of the Bureau important work is done in regard to botany, entomology, chemistry, geography, and geology, and investigations in applied science promise economic results of value in regard to fuel, fabrics, building materials, mining, engineering, and the like. The report is elaborately illustrated, the illustrations of the laboratories and industrial establishments indicating clearly the completeness of the equipment provided. The Bureau is a credit to an enlightened Government.

RUPTURE OF THE STOMACH OF EXTRAORDINARY EXTENT.

IN the *Journal of the American Medical Association* Dr. J. D. Singley has reported a recent case of rupture of the stomach of such extraordinary extent that it appears to be unique in medical literature. A big, well-formed, muscular man, aged 23, an iron worker, was injured at 10 P.M. by a large casting falling on his upper abdomen. He had not eaten anything since 6 P.M. He was admitted into hospital at 10.30 P.M., in a state of profound shock. The pulse was 136, the temperature was 96° F., and the respirations were 26 and of costal type. There was no external evidence of injury. Under treatment the pulse fell and improved in quality. The abdomen was flat in general, but slightly full in the epigastrium. It was dull from the pubes to the umbilicus, and in both flanks. There was no

peristalsis. A doubtful history was obtained of the patient having vomited and passed blood per rectum. Rupture of abdominal viscera, probably stomach, intestine, or liver, with severe hæmorrhage was diagnosed, and the abdomen was opened through the upper right rectus at 1 A.M. After removing a great quantity of fluid and clotted blood, the stomach was found so widely torn that there was difficulty in determining the proper relations of the edges. Extending across the whole of the anterior surface was a V-shaped tear, with its apex at the pylorus, which was prolonged on to the posterior surface, leaving only 1½ inches of gastric wall connecting the portions of the stomach on either side. The gastric and gastro-epiploic arteries were torn across, the rents extending into the gastro-hepatic and gastro-colic omentum respectively. The margins of the stomach wound were brought together by continuous inverting sutures of catgut and linen, and the omental wounds were closed with catgut, leaving sufficient space in the gastro-hepatic omentum for the insertion of a split rubber tube with a wick. A cigarette drain was placed in contact with the anterior and lower portion of the stomach. No stomach contents could be recognised in the abdomen. The patient never rallied from the hæmorrhage and the shock of the operation, and died at 8 A.M. Dr. Singley thinks that the stomach must have burst when struck, much as an inflated paper-bag does. Such extensive rupture could not have been produced merely by crushing between the spine and the impacting body.

PULMONARY INFECTIONS OF UMBILICAL ORIGIN IN THE NEWLY-BORN.

IN the *Presse Médicale* for July 5th, under the title of "Le Poumon Ombilical," M. E. Bonnaire and M. G. Durante describe the complications which may develop in the lung of the newly-born infant as a consequence of infection through the imperfectly healed umbilical wound. As they point out, the type of infection varies according to the mode of penetration into the body through this portal; the chief types being a local cellulitis with general toxæmia, a gradual infection of the blood stream, and an embolic infection of pyæmic type. The lesions which develop in the liver as a result of these processes are fairly familiar; what is not so generally realised is that the lungs are almost as frequently injured. A characteristic case is described, that of an infant whose temperature rose abruptly five days after birth, death ensuing after ten days of oscillating pyrexia. The lungs were studded with miliary infarcts, which on section proved to contain numbers of streptococci. Similar micro-organisms were discovered in the depths of the umbilical area, but there was a noteworthy absence of gross naked-eye phenomena on its surface. The writers divide the pulmonary lesions developing under these circumstances into three classes: purplish, ill-defined areas of congestion arising as a result of toxæmia alone, and therefore free from micro-organisms; miliary infarcts with or without surrounding zones of inflammatory reaction, sometimes coalescing to form hepatised nodules which are superficially like broncho-pneumonic areas, but distinguished from these by the absence of bronchial changes and by the presence of micro-organisms in the smaller vascular channels; and, finally, cicatricial spots found in babies who have survived the immediate onslaught of the infection while succumbing to some later disorder. Clinically, it is difficult to discover any evidences of these phenomena, the only distinctive physical sign consisting of spots of dulness, perceptible under the lightest percussion. Prognosis varies with the type of organism discoverable in the umbilical tissues; with saprophytic bacteria there is little to fear; staphylococcal infections tend to remain localised; while the presence of streptococci or diplococci practically always foreshadows a fatal septicæmia. Premature infants make a poor fight against these infections; and those children who recover are nevertheless enfeebled and more or less permanently damaged. The difficulties which attend diagnosis are eloquently set forth by a comparison of post-mortem with clinical data. In 2603 infants umbilical infection occurred 832 times; in 41, or 5 per cent. of these, evidences of pulmonary complications were discovered by examination during life, while post-mortem observations revealed lesions in the lungs in 20 per cent. of the cases examined. These figures also serve to show that *le poumon ombilical* is by no means an unusual phenomenon, and that it is a formidable contributor to the death-rate of the earliest weeks of life.

DYSENTERIC ABSCESS OF THE LIVER.

Two long papers on this disease appear in two successive numbers of the *Archives de Médecine et de Pharmacie Navales* for April and May and in the May number of the *Archiv für Schiffs- und Tropen-Hygiene*, the first by Dr. Pervès and Dr. Oudard, of the French Navy, describing 20 cases on whom they have operated in the Naval Hospital at Cherbourg, the other by Dr. O. Müller on 28 cases that have come under his care at Hong-Kong. This latter paper has some interesting remarks on etiology. Dr. Müller has never seen a case in a woman; one patient only could be called a drinker, nine of his patients were really teetotalers; five only were married, the other 23 were bachelors. Six were Roman Catholic missionaries, unmarried naturally, and living hard lives, while, on the other hand, he has not heard of a case among the married German missionaries in the 12 years he has practised in Hong-Kong. His explanation is that liver abscess is, like its causative dysentery, due to the untidy, careless methods of native cooks whose bachelor masters exercise no supervision over them, while, as he says, "the mere presence of a woman brings order and cleanliness into the kitchen." Some cases of liver abscess occur in patients who deny any attack of dysentery. Whence, then, come the amœbæ? Dr. Müller reports a fatal case—a young merchant, six months only in the tropics and never a day ill. His abscesses were multiple, and he died; his colon was in all its length covered with dysenteric ulcers. As to diagnosis, he says, as does Manson about ankylostomiasis, the first thing is to have the disease in mind. Ill-health, olive-green colour, swelling or bulging over the liver, pain in the shoulder, small tender areas about the liver are all suggestive. Perhaps the patient stands bent over to the right side to relieve the sensation of weight that comes with the enlargement of the organ, and often there are two or three large cutaneous veins over the liver without others to match them crossing the spleen. This last sign he considers a valuable as well as an original point. Treatment is in both papers conducted on similar lines, but Dr. Müller insists that exploratory puncture must be done under anæsthesia, so that it shall be done thoroughly. Once the diagnosis of liver abscess is made, its exact position must be discovered and free opening secured. Both papers advise a similar opening through the pleural cavity, below the lung, the pleura being sutured to keep the pus out of the pleura and prevent pneumothorax. Dr. Pervès and Dr. Oudard got better results when they swabbed the inside of the abscess cavity to rub off the adherent pus and amœbæ or when they used the curette. The treatment advised in both papers is good; the remarks of Dr.

Müller on etiology and diagnosis make his paper very well worth special attention.

A MEDICAL POET LAUREATE.

Dr. Robert Bridges, F.R.C.P. Lond., at one time attached to St. Bartholomew's and the Great Ormond-street Children's Hospitals, has been appointed Poet Laureate. He retired from medical practice 30 years ago, and most of his scholarly and elegant literary work dates from a later period.

WE regret to announce the death of Professor Francis Gotch, D.Sc., F.R.S., Waynflete professor of physiology and Fellow of Magdalen College, Oxford, at the age of 60.

MEDICAL AND SURGICAL EXPERIENCE IN THE BALKAN WAR.

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A CERTAIN halo of romance is usually attached to the circumstance of war, even when it is viewed from the medical standpoint. But while it is true that problems, which in routine work at home are non-existent, rise up in their primitive and difficult simplicity and call for immediate solution, and that the reduction of all energies towards a common end produces a tonic and stimulating atmosphere, at a base hospital affairs soon become regularised, work continues, romance fades, and on analysis one's experience seems to be merely commonplace and to follow in the natural sequence of professional knowledge. This consideration makes one hesitate to publish any account of the matter, lest it should too far have lost the savour of novelty. Moreover, the writings of many distinguished surgeons on the experience of the Boer and Russo-Japanese war have so clearly defined the possibilities of surgical practice under war conditions that a record of our doings in the recent campaign might seem superfluous.

Despite these considerations, we have endeavoured to give an outline of the work dealt with by the base hospital of the British Red Cross Society in Constantinople, in the hopes that a report of the organisation of a large voluntary detachment and of the incidence of some unusual diseases in so essentially foreign a country may prove of value for future reference. We propose also to outline our experience of surgical cases, giving details of the more interesting.

The opinions in this paper are essentially based on the work of our own hospitals, but in some degree they have been influenced by observation of the practice of Turkish and other voluntary organisations—the close concentration of the Turkish troops made such an interchange of experience an easy matter.

ORGANISATION.

In October, 1912, the British Red Cross Society dispatched to Constantinople three field units under the charge of Major Doughty-Wylie, C.M.G. The work carried out by this detachment and its subsequent reinforcements was of a varied character, in all, 1523 cases came under its treatment. In addition to auxiliary and refugee work four distinct hospitals were established.

The base hospital was situated in the Musée des Beaux Arts, Stamboul, and was in charge of the writers of this article in succession, assisted by Dr. H. L. Mann, Dr. F. R. Thornton, and Dr. M. C. Gardner. At a farmhouse on Lake Kuchuk Chekmije was a collecting hospital with an advanced dressing station under Dr. E. Anderson. Dr. R. O. Ward and Dr. L. G. Bourdillon were in charge of a similar establishment at Kalikrati; Captain J. H. Horton, D.S.O., I.M.S., and Captain P. A. Lloyd-Jones, R.A.M.C., were in control of a hospital for dysenteric cases at Baikos. It is with the cases treated at the first-named base hospital that we propose to deal.

We will first give some general account of the establishment of the hospital and we will subsequently deal with our clinical experience.

Organisation of the Hospital.

The museum is a detached modern building, containing on one floor nine good-sized rooms and a spacious vestibule. It is situated on the side of a hill and has half an acre of land attached to it. The director, Halil Bey, put the whole at our disposal and assisted us in every possible way. As a hospital it was capable of containing, in addition to the staff, over 100 patients.

Gas and a limited water-supply from the main reservoir at Derkos were fitted soon after our occupation of the building. During the first few weeks the only bedding available was in the form of mattresses, which were placed on the floor. (Fig. 1.) Although the Turkish soldiers were quite at home under such conditions—in fact, preferring them to the limitations of camp bedsteads—this arrangement made it difficult to keep the floors clean and rendered all nursing and dressing very laborious. The floors were of good wood, but it was not till December, when we had them covered with oilcloth, that they could be kept in proper condition. Within a few weeks either light bedsteads with spring mattresses, or camp beds made locally by stretching canvas on a double × frame, were provided for all. (Fig. 2.)

FIG. 1.

Main ward showing the early arrangement of the beds.

FIG. 2.

The main ward when fully established.

The large number of cases with acute enteritis made waterproof bed sheets a necessity, the Willesden canvas we had taken out proving very unsatisfactory for this purpose. Some American cloth purchased locally was useful, but a good

supply of stout jaconet would be invaluable under similar conditions. The Ottoman Red Crescent Society were always ready and liberal in the augmenting of ward necessaries, and they also assisted in the arrangements for the supply of food and fuel.

Water-supply and Sanitary Arrangements.

As already mentioned, running water was available, but it was unsuitable for drinking purposes. Fresh water was carried in daily from springs and after filtration was used for this purpose. We were provided with acid sulphate of soda and the chemicals for producing nascent iodine, but we never consistently employed these methods of sterilising water. Patients with enteritis were usually given potassium permanganate water. Lactic acid was a very popular disinfectant among the Turkish medical officers; they used it very commonly for their hands and for washing out their drinking-vessels. The regular use of tea as a drink was encouraged among the orderlies as the most effective method to secure boiling of the water.

Sterile water for the wards and operating theatre was conveniently prepared in large charcoal-heated samovars, or else by boiling in buckets on the ward stoves.

When we took up our quarters the museum was fitted with three latrines suited to native habits. These consisted of a large flagstone with a circular hole cut in it 6 inches in diameter and placed directly over a shallow cesspool. These frequently became foul and had to be temporarily closed. Sets of bench latrines with old kerosene tins as reservoirs were set up outside, chloride of lime being largely used as a disinfectant. In the grounds on the slope various refuse pits and a large incinerator were dug. The excreta collected in the wards were thrown into large covered enamelled-iron cans, kept just outside; these were carried out and the contents buried every hour by native orderlies. The bed utensils were washed out with a solution of crude phenol.

The many serious enteritis cases were a source of considerable trouble, for to get the soiled bed linen properly washed and dried was always difficult, especially as the weather was variable. The local authorities arranged for the steam sterilisation of all the patient's kit.

Commissariat.

Two wooden sheds were put up and fitted with good-sized iron stoves. One was used for the patients and the other for the staff, the former being entirely handled by native cooks. The rations supplied to the patients were in general simple: a mess twice a day, consisting of rice, vegetables, and some meat, was the staple of their diet; each patient consumed about a pound of bread a day. Tea was their usual beverage, and various forms of condensed milk were much used. The native sour milk "jaodt" was very popular, it was given as a delicacy, and also proved a satisfactory form of food for the cases with dysentery.

Personnel.

Each unit consisted of three medical officers, three dressers, and 12 orderlies. No female trained nurses were included. Mrs. Doughty-Wylie obtained the services of some French sisters and Turkish ladies, and subsequently of some Armenian nurses. To offer advice after the event is easy and of little value, but we may make a few notes of our opinions, although the uncertainty of the conditions to be encountered at such a distance must always make the satisfactory selection of the *personnel* a matter of chance. The dressers were unnecessarily numerous; they should rank as assistant medical officers, and have delegated to them definite duties, such as store and dispensary keeping; a large proportion of the actual dressing can be done by properly trained nurses. The numerous orderlies proved a great stumbling-block, for unless some system of money fines be instituted the discipline it is possible to exact in a voluntary unit in a foreign country is very limited. The work of the general orderlies was done equally well, in fact better as far as ward work was concerned, by native labour; the work of a few good male nurses was invaluable. A carpenter is essential, and a reliable ex-non-commissioned officer to act as quarter-master and generally supervise the men can be of great assistance.

Surgical Outfit.

A well-lighted room with a stone floor was available for conversion into an operating theatre; we had a good table and a steriliser and autoclave heated by gas, presented by the Ottoman Red Crescent Society. The supply of dressings from England was plentiful, and they were sterilised in suitable bundles as required.

Carbolic acid was provided as our principal antiseptic. We went out provided with what appeared to be a large supply, but it soon became exhausted. It is, of course, bulky in relation to its disinfectant power, and we consider that for war service its use should be discontinued and a similar bulk of lysol or kindred substance be substituted. In this way at least 25 times the amount of disinfectant solution could be made for the same weight of chemical. The mercuric solutions are a nuisance on account of the frequency with which inexperienced orderlies plunge instruments into them. Large flat enamel trays (such as are used by photographers) proved most serviceable for ward dressings.

The instrument equipment was that contained in the two sets of Royal Army Medical Corps pattern medical and surgical panniers. A few additional instruments, such as intestinal clamps and mastoid gouges, were also taken. We were not provided with any X ray apparatus, and the lack of this would have been severely felt had we not been working in Constantinople. As it was, Dr. J. F. McClean, of the British Seamen's Hospital, who assisted us most generously in many other ways, himself took a large number of excellent skiagrams of our patients. No apparatus for making the simplest bacteriological examination was available till December, when Major A. B. Smallman arrived with a complete equipment.

Language.

A word may here be said in relation to this subject. We are of the opinion that every medical officer of a voluntary unit working in a foreign country should be able to make himself understood by the educated classes and in their own tongue. A failure in this respect is apt to lead to endless delays and misunderstandings. In Turkey, to gain even a moderate knowledge of the native tongue was almost impossible in the time available, but a fair command of French was quite sufficient to assist in the many petty but necessary negotiations.

Transport of Wounded.

The Museum Hospital was situated some five minutes' walk from the railway station and military landing-stage. During the early part of the war the Turkish authorities relied almost entirely on rail transport for the wounded; from the station to our hospital they were carried on stretchers. Very few regular ambulance wagons were available; rickety arabahs formed the main type of horse transport within the town. The patients treated at our outlying hospitals were brought down by water. Major Doughty-Wylie arranged for the loan of a tug from the Turkish Admiralty, and this method proved very satisfactory for conveying supplies and wounded to and from Kuchuk-Chekmiji, Kalikrati, and Stamboul. It was found that the wounded travelled best on stretchers placed in large sailing caïques in tow of the tug. The Turkish authorities adopted this method during the latter stages of the war.

GENERAL RESULTS.

The following statement shows the total number of cases which came under our care at the Museum:—

Number of in-patients discharged cured or relieved	508
" " " who died	70
Total, 578 Mortality percentage, 11·4	
Number of out-patients treated (no deaths)	300

The incidence of the fatal cases is of some interest. Of the first 130 cases treated no less than 54 died, a mortality of 41·6 per cent., whereas in the latter 448 cases the mortality-rate was only 4 per cent. The striking contrast offered by these figures is accounted for by the deplorable state in which the wounded arrived at the hospital in the early stages of the war. They had been ill-fed both before and after being injured, and the transport arrangements were such that many men hit at Kirk Kilisse and Lake Bourgas spent from eight to 12 days on the road before arriving at Constantinople. When they arrived, in addition to their wounds, most of the survivors were suffering from acute dysentery or some form of enteritis—indeed, the latter complication was most often the cause of a fatal issue. After the renewal of hostilities the men had been lying for months behind the Chatalja lines, some 20 miles from the city, the commissariat arrangements had been reorganised, and the

men were in good *morale* and sound physical condition. The wounded were brought down from the front in from one to four days, and their general condition was in striking contrast to that of the "dead beats" of whom so much was seen during the first months of the campaign.

If the figures given above are classified, in order to show the relative incidence of the medical and surgical cases treated, the result is as follows:—

	Total.	Deaths.	Mortality.
Medical cases	227	24	10·6%
Surgical ,, ...	351	46	13·1%

Under the heading medical cases, none with wounds have been included, whereas under the surgical heading many of the cases were affected by medical complications.

We will first record our observations on the medical conditions, and terminate with a statement of the surgical cases dealt with.

MEDICAL CONDITIONS.

The epidemic enteric diseases, first and last, undoubtedly make the medical history of any campaign, and the Balkan war has proved no exception to this rule—indeed, the appearance of cholera among the troops of both sides in November paralysed all military activity for some weeks. The other diseases which arose were of no great importance, unless we give starvation a separate heading. The acute infections of the lungs and subacute rheumatism disabled a certain number of men, but never in epidemic proportions, and as the treatment was on the usual lines we shall not further refer to them. Thirty-one men were admitted to the Museum on account of parasitic conditions of the skin, a condition common to every man in the army. Sterilisation of their clothing, bathing, and the inunction of sulphur ointment did not fail to put all on the active list within a few days.

Dysentery.

Twenty-eight cases of infective diarrhœa came under treatment; 16 died. Many of the surgical cases were affected by a similar complaint. In the more acute cases it was very difficult to differentiate the condition from cholera. We were not able to obtain bacteriological evidence until December. Major A. B. Smallman, R.A.M.C., then examined a series of cases. In those classified as dysentery he found the Flexner bacillus in one only of 20 examinations; in no case were amœbæ found. Cholera vibrios were isolated from several cases which were clinically suspected of this disease. To whatever infection the enteritis was due it proved very fatal in its results, and in the severe cases responded little to treatment.

Symptoms.—Colicky abdominal pain, diarrhœa, with a certain amount of collapse. Vomiting was not common; it occurred in several cases in which many round worms were brought up. The stools numbered on an average about 15 a day; they were fluid, and contained mucus, but little fæcal matter; blood was seldom seen. The subjects became rapidly emaciated. In the acute cases death occurred on the third or fourth day; others in which the enteritis appeared to be subsiding died after the first week in a manner suggestive of cardiac failure. The temperature ranged about 97° F. in acute cases; in the more chronic it was sometimes irregular and above normal. The urine was scanty, the pulse small and rapid.

Treatment.—In the acute cases drugs were of no avail; infusion with hypertonic saline appeared to save one or two. Several different styles of drug treatment were tried; all had their merits extolled by one or other who considered them of value. They are as follows:—

(*a*) Potassium permangate, gr. i. to gr. iv., to 1 pint of water; dose several pints a day, or as a pill, gr. ii., every six hours.
(*b*) Calomel gr. i., pot. permang. gr. i.; alternately four-hourly.
(*c*) Mag. sulph. and sod. sulph., āā 3ss. hourly for two days. Followed by pil. opii gr. i., or tinct. opii ℥xv. four-hourly.
(*d*) Bismuth gallate, gr. xxx. four-hourly; sometimes combined with salol or B. naphthol.
(*e*) Calomel gr. ½, opium gr. ¼, six-hourly.

We consider that the latter method of treatment proved most satisfactory for the chronic cases. The diet was restricted to milk and "jaodt." Emetine was also given in several cases without much effect: as there was no evidence of the condition being due to amœbæ this was not surprising.

Cholera.

In the first few weeks of November there was a sudden increase in the army of the number of cases which had been regarded as acute dysentery; the possibility of some of the cases being really cholera was considered, and eventually rendered certain by bacteriological examination. That this confusion in diagnosis should have arisen may at a distance seem remarkable, but actually the clinical course of the cases was very similar. The symptoms of the certainly choleraic patients were often not classical, and laboratory proof was obviously only occasionally obtainable.

Symptoms.—Acute abdominal pain and diarrhœa were fairly constant; we did not see any cases of cholera sicca; vomiting occurred in about half the cases. Cyanosis and torpor were marked, and anuria was not uncommon. The cases with extreme collapse died in about 24 hours; many fatal cases, however, survived for two or three days. Cramps of the extremities were not often seen. The stools were frequent, and typical only in a minority of the cases. The wasted, hollow-eyed appearance of the victims did not vary much from that of the acute dysenteric cases. The temperature was always markedly subnormal. The civil population of Constantinople were infected to some extent at the time of the epidemic in the army, and the figures of incidence and mortality showed the graduation common in such epidemics, the mortality rate at the commencement being about 80 per cent. and gradually dropping to about 25 per cent. The figures for the army are not yet available.

Treatment.—Only four cases (three fatal) in which the diagnosis was certain were retained at the Museum; whenever possible suspicious cases were sent on to the Turkish cholera hospital. Infusion with hypertonic saline and opium by the mouth seemed to give hope of the best results; most of the drugs used for the dysenteric cases were also tried. Kraus,[1] who appears to have had considerable experience of this class of case on the Bulgarian side, considers that an excellent effect was produced by administering 5 minims of tincture of iodine three times a day.

Enteric Fever.

Only 5 certain cases were treated by us, with one death. The disease usually runs a mild course among the native population, being endemic. Three cases (one fatal) occurred among the staff and were treated by Mr. McClean in his hospital.

Typhus.

This disease is endemic in the Balkan Peninsula but not now of very frequent occurrence; the small number of medical men who had had practical acquaintance with it often resulted in the diagnosis being doubtful or overlooked. In the museum 18 cases were under treatment. From the fact that a number of patients were affected in from 14 to 21 days after they had been in hospital it may be assumed that they were infected there. Complete isolation was difficult to maintain, although suspected cases were put in a special ward.

Symptoms and course.—In the prodromal stage chills, constipation, and a feeling of malaise were common. In a day or two the temperature rose within 24 hours to 104° F.; it remained high for 10 to 14 days, the average being above 103°, and without any marked morning remission. It dropped to normal in from two to three days. On the second to fourth day of symptoms a petechial rash appeared; it was distributed evenly over the trunk and often extended to the limbs. The rash was dusky red in colour and was not obliterated on pressure; papules were also sometimes seen. Constipation was the rule; there was no abdominal pain or distension. Enlargement of the spleen was noted in several cases, but most of the patients had a previous history of malaria. The patients quickly sank into a state of prostration, passing on to coma, and in the later stages of the severe cases a low muttering delirium was common. In every case there was some evidence of bronchitis. The respirations and pulse were rapid, averaging 30 and 110 respectively. A fatal termination occurred between the sixth and twelfth day. In the non-fatal cases, after the crisis, recovery was rapid and uninterrupted. Only two deaths occurred.

Treatment.—Sponging was employed for cases with a temperature of over 104°. The diet was limited to fluids. Drugs were only given as suggested by the symptoms.

Unfortunately, no satisfactory bacteriological investigation of these cases could be carried out. Those instances in which the blood was tested for the Widal reaction gave a negative result.

(*To be concluded.*)

[1] Kraus: Verhandlungen der Wiener Medizinischen Gesellschaft, Feb. 8th, 1913.

ANNUAL REPORT FOR 1912 OF H.M. CHIEF INSPECTOR OF FACTORIES.

THIS report[1] has recently been issued by H.M. Stationery Office. This volume, like its predecessor, which we noticed appreciatively on its appearance,[2] contains particulars of the work of the Factory Department of the Home Office for the year under review.

As in the previous report, the bulk of the present volume, which occupies 274 folio pages, is devoted to the sectional reports of the superintending divisional inspectors, or to the special reports of the medical inspector, or of the chief lady inspector. In a brief preface Sir Arthur Whitelegge, the Chief Inspector of Factories, summarises the work of his department for the information and guidance of the Home Secretary.

Sanitation—Cleanliness.

To the subject of cleanliness special attention is directed in each of the six divisional reports, which in this regard are, on the whole, encouraging; but in very many instances they indicate the urgent need for radical improvement. In the larger works of the great towns in which articles of food are manufactured a high standard of cleanliness is maintained, but in the smaller works the conditions are in many instances unsatisfactory. Not only are the premises unsuitably constructed and badly kept, but the filthy habits of the workers materially add to the other insanitary conditions. Revolting instances of this are quoted in at least two of the reports. The sanitary condition of bakehouses varies greatly in different districts. In the large bakehouses of London, Birmingham, and Glasgow a high standard of cleanliness obtains; but in many of the smaller bakehouses, especially in the rural areas of the northern division, the conditions are far from ideal. The defects noted include unsuitable and badly kept premises, general want of cleanliness, and insufficient space, in consequence of which flour and fuel are sometimes stored together. In a bakehouse recently inspected the dough was mixed in what was originally a stable. A gully was detected in the centre of the floor which was apparently connected with a main drain. About 10 yards from the door of another bakehouse there was an open midden for manure and other refuse; great numbers of flies were seen going between the midden and the bakehouse. In several country areas in the north the dirty state of the bakehouses is due to the neglect of the local sanitary authorities.

Sanitary Conveniences.

This important subject is dealt with at length by several of the inspectors, female as well as male. In London and in most of the great towns the standards adopted by the authorities are fully abreast of modern sanitary knowledge, but many instances are given in which affairs are in a deplorable state. The chief defects noted are: (1) want of privacy, due to insufficient separation of closets from the work places; (2) failure to provide supervision, and resulting persistence of filthy conditions; (3) structural defects in the closets, although these have mostly been constructed under the sanction of the local authorities. Dealing with this matter in a special report a lady inspector remarks upon "the obtuseness in matters of propriety of employers who cannot see for themselves that to set men to control the daily use of women's conveniences is intolerable in civilised opinion."

Bathing Facilities.

In several large works in the Midlands, where arduous labour causes profuse perspiration, baths are now being introduced, greatly to the comfort of the workers. In Birmingham the authorities have constructed a number of cottage baths, which are constantly used and highly appreciated. In Glasgow no large bakehouse is considered complete without a bath, and bathing facilities are being provided in other large establishments in that city.

Electrical Accidents.

In spite of the great increase in the use of electricity it is satisfactory to learn that the number of accidents therefrom in factories is decreasing. Mr. G. Scott Ram deals fully with this subject in the present report. He says that out of 19 cases of fatal accidents in only 9 was it clear that attempts at resuscitation were made by means of artificial respiration, and that even when this was tried the effort was discontinued after insufficient interval. Mr. Ram refers to an instructive paper on Electrical Accidents read before the Electro-Therapeutical Section of the Royal Society of Medicine by Dr. S. Jellinek of Vienna,[3] and also to an important letter to THE LANCET on the Dangers of Electricity, by Dr. Reginald Morton, president of the section.[4] In view of the importance of this matter Dr. Morton's declaration in his letter to us cannot be too frequently repeated: first, that death from electrical shock is only an apparent death, at first; and, secondly, that there is practically always a time, varying from a few minutes to two hours, within which it is possible to resuscitate the victim by artificial respiration if resorted to at once.

Mr. Ram insists on the importance that no time should be lost in getting assistance after the accident, and that the efforts should be continued for at least two hours. Owing to the comparative rarity of electric shock accidents very few medical men can have had actual experience in their treatment; and it is certain that some, at any rate, do not realise the importance of perseverance in artificial respiration. In a number of fatal cases investigated by Mr. Ram the persons present have started this expedient, and a doctor has been sent for, who on arrival has pronounced the patient dead, and has gone away within half an hour of the accident. A case of this kind was cited by a witness at a recent public inquiry, where, after the doctor had pronounced the victim dead, the bystanders succeeded in bringing the patient round by means of artificial respiration. In another case a doctor is reported to have said at an inquest that attempts to restore animation immediately after the accident would have been useless, as he was sure that death must have been instantaneous.

Anthrax.

The special report of Dr. Thomas M. Legge, H.M. Medical Inspector, contains particulars of investigations respecting cases of infection by anthrax, and of poisoning by carbon monoxide and by arsenic, lead, and other metals, as well as respecting the influence of certain "industrial dusts" of various kinds in causing mortality from tuberculous and other affections of the respiratory system.

The essential facts bearing on infections by anthrax conveyed by wool, horsehair, hides, and skins, are indicated in a series of useful tables relating to such occurrences in the year under review. Investigation has established the danger attaching to certain dust-extracting machines, Dr. F. W. Eurich having cultivated anthrax from samples of dust submitted to him. Attempts are now being made to deal with this dust by means of exhaust ventilation. All the cultivations from materials without trace of blood were isolated colonies, contamination of the wool having apparently taken place in India during the process of washing. The numerous instances in which anthrax was found in East India wool by Dr. Eurich sets at rest all previously existing difficulties arising from our ignorance of whether or not consignments of East India wool really contain anthrax. With Dr. Eurich's aid the Anthrax Investigation Board have continued their bacteriological examination of all reported cases of anthrax. Among the results of special interest may be mentioned the necessity of abandoning the hitherto prevailing theory of "no blood, no anthrax," for anthrax spores have been cultivated from material—especially East India wool and skin mohairs—in which there was no evidence of blood. The explanation of this as due to "tub-washing" is at least a probable one.

In an interesting recent paper[5] Dr. Eurich has set forth his suggestions for the prevention of wool-sorters' disease. It has been shown experimentally that where wool is in a loose state, and consequently easily permeable, anthrax spores in blood-clots will be killed by "steaming" in about 15 minutes. As far as blood-clots are concerned, this method of disinfection is apparently satisfactory. But, apart from possible injury to the fleeces, the difficulty of disinfecting wool in bulk by steaming will probably prove insurmountable. Experiments in this direction are, however, being continued by the Anthrax Investigation Board.

[1] Factories and Workshops Annual Report for 1912 of Chief Inspector. Folio pp. 274. Wyman and Sons. Price 2*s.* 5*d.* [Cd. 6852.]
[2] THE LANCET, July 20th, 1912, p. 176.
[3] THE LANCET, Nov. 23rd, 1912, p. 1452.
[4] THE LANCET, Nov. 30th, 1912, p. 1539.
[5] Journal of the Sanitary Institute, November, 1912, p. 507.

Carbon Monoxide.

Of the 29 reported cases of poisoning by *coal gas*, which contains about 8 per cent. of carbon monoxide, a considerable proportion occurred in gasworks. Eleven persons were overcome by escape of gas from the fittings in the work-places, and nine cases of poisoning were due to discharge of exhaust gases from a gas engine. In these cases the town gas-supply was mixed with water gas which contained about 45 per cent. of CO. Thirty-three cases, with five deaths, were caused by *blast furnace gas*, which contains about 35 per cent. of CO. In 1912, as in previous years, the total loss of life was increased by the circumstance that in their gallant attempts to save their comrades several of the rescuers themselves perished.

Metallic Poisoning.

Of the cases of *arsenical poisoning*, which were few in number, the majority were due to the handling of bird skins recently imported from the East Indies, seven boxes of which yielded on examination from 16 to 17 lb. of white arsenic. Compared with previous years, there was in 1912 a diminution of *lead poisoning* in some processes and an increase in others. Recent experience tends to emphasise the view that control of sources of dust is the most important factor in reducing the number of attacks, and this can best be accomplished by periodical medical inspection. Dr. Legge expresses the belief, based on the investigations of Mr. G. E. Duckering,[6] H.M. Inspector in Birmingham, that if the amount of lead present in the air breathed contained less than 5 milligrammes per 10 cubic metres of air, cases of encephalopathy and paralysis would never occur; and he further believes that somewhere about 2 milligrammes of lead is the daily dose which, inhaled as fumes or as dust, may in the course of years set up chronic plumbism. Of the 517 cases of lead poisoning in males the proportion noted as severe was nearly 20 per cent., or 9 per cent. less than in the decade 1900–1909. Of the total cases recorded in the table 82 were suffering from paralysis and 63 from weakness of arms or loss of power. The cases of lead encephalopathy numbered 11. The reported cases of *mercurial poisoning* were few in number, several of which occurred in the manufacture of felt hats. A useful paper dealing with this subject, by Dr. F. E. Tylecote, of Manchester, has already been noticed in these columns.[7] The possibility of mercurialism affecting the wearer of felt hats would appear to be not altogether remote.

Industrial Dusts and Respiratory Diseases.

It is familiar knowledge that the effect of dust in the causation of disease differs greatly according to the nature of the dust, the more injurious kinds being those containing silica. Several years ago inquiry was made concerning the excessive mortality in the Stockbridge district among ganister workers exposed to dust from that material, which consists almost entirely of free silica. A table is now given showing that in the period 1891–1900 the mortality among ganister workers was equal to 82·9 per cent. of the total deaths; and although the ratio has since fallen, it still amounted to 67·8 per cent. in the period 1901–1911. Dr. E. L. Collis, H.M. Inspector of Factories, has long been occupied in special investigations concerning the effect of mineral dust on granite cutters, ganister workers, and stonemasons, among all of which pulmonary tuberculosis is inordinately fatal. After diligent inquiry, Dr. Collis suggests, *inter alia*, the generalisation that dusts containing free crystalline silica are associated with a death-rate from phthisis which increases in proportion to the amount of such silica inhaled. Hitherto attention has been centred on the relation between dust inhalation and pulmonary tuberculosis, although it is beyond question that other diseases of the lungs are caused by dusts of various kinds. Evidence respecting these diseases is difficult to obtain, and they are certainly less fatal to those affected; nevertheless the damage due to dust—such, for example, as that generated in stripping cotton-carding machines—is very serious, and requires official attention. Further progress is reported respecting mechanical dust removal in cotton mills; practically all the mills in Lancashire, Yorkshire, and Glasgow are now provided with efficient ventilating plants. Exhaust draught for the removal of dust from granite lathes has given satisfaction in Kilmarnock, and has been successfully applied to dressing machines elsewhere. Summarising the experience of the northern district, Mr. W. Williams writes that in few directions have the actions of the inspectors been more productive than in their efforts to secure the removal of dust from workrooms, and with the increasing number and experience of the ventilating engineers the standard of attainment is constantly rising. In many processes in which a constant fog of dust was considered unavoidable a few years ago the atmosphere is now clear, and a very high degree of skill has frequently been displayed to ensure that the exhaust arrangements shall not lead to inconvenience either from want of adjustability or from draughts of cold air.

[6] Special Report on Dangerous Processes in the Coating of Meta' with Lead, &c., 1907 (Cd. 3793).

[7] THE LANCET, Oct. 26th, 1912, pp. 1137 and 1166.

THE NINTH RESEARCH REPORT ON THE METROPOLITAN WATER-SUPPLY.[1]

Dr. A. C. Houston, Director of Water Examination, Metropolitan Water Board, has recently issued his ninth research report on the London water-supply, and it proves to be of a highly interesting and at the same time very reassuring character. These scientific investigations carried out by Dr. Houston since 1905 have enabled him to advise with greater confidence upon matters affecting the quality and safety of the metropolitan water service. It is not so long ago that sanitarians of some eminence looked with grave suspicion upon the water-supply of London, mainly because its chief sources were two contaminated rivers, the Thames and the Lea, into both of which sewage, after more or less adequate treatment, was discharged by up-river towns and districts. Water from such a source, it was contended, was very likely to become an agent in the diffusion of certain diseases, and particularly of typhoid fever. But as the result of Dr. Houston's investigations we are perhaps warranted now in regarding the Thames (and presumably the Lea also) with less disfavour than formerly. This investigator in previous reports has shown that fæcal streptococci are not uniformly present in the river water except in very sparse numbers; he has also demonstrated that "uncultivated" typhoid bacilli die more speedily than their "cultivated" brethren in Thames water under conditions of storage, and that "cultivated" typhoid bacilli cannot maintain their vitality for more than a few weeks. In the report now under consideration attention is directed to certain reassuring investigations concerned with the search for pathogenic bacteria in raw unpurified river water, and notice is called also to the negative results of an exhaustive search for B. typhosus in samples of crude sewage. The evidence he has thus acquired leads Dr. Houston to think that the river Thames might be reinstated in public opinion as a source of water-supply provided that the river water is always adequately stored prior to filtration.

The Search for Pathogenic Microbes in River Water.

A short summary is given of the previous inquiries respecting the presence of B. typhosus and Gaertner's bacillus in raw river water. Taking all Dr. Houston's observations together, involving the study of 29,470 specially selected colonies from 257 raw river water samples, only two typhoid-like organisms were discovered, and out of 22,141 other colonies from 101 samples examined only one Gaertner-like microbe was detected. It is very probable, therefore, that B. typhosus and Gaertner's bacillus are not habitually present in small amounts (10 c.c.) of raw river water. If the typhoid microbe when added artificially in large numbers to the raw river water cannot be isolated after from one to three weeks' storage, and if the B. typhosus cannot be found in 10 c.c. of river water which is destined to be stored for several weeks antecedent to filtration, it is obvious that the facts adduced by Dr. Houston must have a high practical significance, and we can reasonably infer that if river water be stored for four weeks prior to filtration, the margin of security is great—much greater indeed than was formerly believed—in view of the practically negative results attending the prolonged search for the typhoid bacillus in the river water.

[1] Metropolitan Water Board. Ninth Research Report by Dr. A. C. Houston, Director of Water Examination, on Search for Certain Pathogenic Microbes in Raw River Water and in Crude Sewage.

The Search for the Typhoid Microbe in Sewage.

The search for B. typhosus in sewage has become of additional importance owing to the comparatively recent discovery of carrier cases, some experts calculating that about 4 per cent. of an ordinary population are typhoid carriers. Dr. Houston mentions that in the urine of the first case of the kind that came under his notice he found nearly 10 millions of the typhoid bacillus per cubic centimetre. Taking 40 ounces as the ordinary daily urinary excretion, and 30 gallons as the average daily volume of sewage per head, the calculation is made that the sewage would contain about 330 typhoid bacilli per cubic centimetre. Sewage contains some 23,000 more excremental bacteria than such a water as that from the Thames, so that on this basis the river water might possibly contain 0·01435 typhoid bacillus per c.c., or 1·435 per 100 c.c., or in round numbers 1 in 69 c.c. As the purification processes, now in operation upon the London water taken from the river, improve the water about 1000 times, it would not, says Dr. Houston, be an unfair inference to conclude that the consumer would have to drink 69,000 c.c. (over 15 gallons) in order to partake of a single typhoid bacillus. It therefore requires imagination to conjecture the possibility of an ordinary consumer of London water imbibing an infective dose of typhoid infection from this source, always assuming the absence of accidental infection of the water between the works and the tap. An account is given of a further series of experiments for the discovery of B. typhosus in sewage, and details are supplied of the methods employed in the experiments and calculations. A table is also given recording results obtained over an extended period. From these figures, which are "deductively inferential," it seems justifiable to say that they lend more than mere theoretical support to the view that the purification processes, when efficiently and without intermission practised by the Water Board, amply safeguard the health of the metropolis.

Where is the Typhoid Bacillus?

Dr. Houston says that the title of his report might almost have been "Where is the Typhoid Bacillus?" for it is by this time evident that we ingest many excremental bacteria without encountering a single B. typhosus. The home of the typhoid organism is not so much in impure water, or even in the crude sewage from a large community, as in the "factories" of disease as exemplified by the carrier cases. Dr. Houston then alludes to the fact that American sanitarians attribute a considerable proportion of their typhoid cases to consumption of impure water, some authorities going so far as to ascribe the endemicity of the disease in certain towns and districts to this cause. Comparison is made, in a tabular statement, between the typhoid death-rate in 15 cities of Northern Europe and 15 large cities in the United States, and from this it is apparent that the typhoid mortality is far higher in the latter than in the former. The lowest rate in the group of American cities is given as 8·8 per 100,000 in Cincinnati, and the highest as 58·7 in Minneapolis. Of the European cities Edinburgh with a typhoid mortality rate of 1·3 per 100,000 is the lowest and Paris with a rate of 5·6 the highest. In Dr. Houston's opinion the part played by water-supply in the causation of endemic typhoid fever is apt to be exaggerated; and it is almost incompatible with the view that the customary draught (say half a pint, or about 284 c.c.) of a satisfactory (or even of an unsatisfactory) water-supply does not contain 1000 excremental bacteria, and therefore cannot contain a single typhoid bacillus. It may, however, be urged that especially in unfiltered water the microbes may be unevenly distributed in the liquid and may be aggregated in masses. In this way, while the majority of the consumers might escape, some few might get a super-dose of the microbes (spotted distribution) and develop the disease. But the metropolitan river-derived water is all filtered before being sent to the consumer, and this fact presumably reduces the danger of "spotted distribution" to a minimum. Assuming an equal apportionment of separated germs in the water, the London consumer could never, "even with the worst of bad luck," receive in one draught an infective dose of typhoid fever unless it can be believed that a solitary B. typhosus can start the infective process.

Summary and Conclusions.

If the risks of using, for waterworks purposes, an initially impure river water are really less than was previously supposed under every-day conditions, it is asked what steps should be taken to render the supply absolutely safe? To this Dr. Houston replies that "attention should be concentrated upon the avoidence of accident." Since the discovery of carriers, the question of accident has assumed very grave importance, there being always the possibility that a carrier may exist among those employed on the waterworks, and whose discharges might find an entrance in one way or another into the water. Finally, Dr. Houston sums up the danger of specific pollution, volume for volume, as ranking in the following order: 1. The carrier unit—the concentrator and factory of the disease—the genesis of epidemics. 2. The unit person of unknown health history, who may be in a position of (1), and who is therefore in a potential sense placed second; but who also, in the great majority of instances, it may be hoped, is an almost negligible factor. 3. The collection of individuals on a large scale, exemplied, in a contaminating sense, by the sewage of a large town. Here the dangerous carrier element being reduced by dilution to normal proportions, less than one typhoid bacillus per 0·001 c.c. of sewage might be anticipated to be present on the basis of the foregoing observations.

Dr. Houston frankly admits at the outset the grave responsibility which he incurs in writing this reassuring report, which he allows may conceivably be interpreted by some persons as offering inducements for the relaxation of any of the present processes of purification of the river water. He, however, hopes that his report will neither be misinterpreted or misapplied, but that it will be looked upon chiefly as affording confirmatory evidence that the protection afforded to the metropolitan consumer is assuredly greater than has hitherto been believed.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual general meeting of this association was held at the rooms of the Medical Society, Chandos-street, London, W., on July 3rd, Surgeon-General G. J. F. EVATT, C.B., the President, being in the chair.

The report of the council for 1912–13 and the balance-sheet were presented and approved. The following were elected officers for the ensuing year:—President: Surgeon-General Evatt. Chairman of council: Mr. D. B. Balding. Treasurer: Mr. A. A. Napper. Honorary secretary: Dr. Major Greenwood. Auditor: Mr. A. Withers Green.

Mr. E. J. MOTT read a paper on the Poor-law Medical Service and the National Insurance Act. Mr. Mott dealt briefly with the origin of the Poor-law medical service. He pointed out that medical relief was not only the least objectionable of all modes of relief; that within reasonable limits it was admissible, and in the existing state of society even necessary. He considered the chief improvement in the system of outdoor medical relief had been the establishment of public dispensaries in the metropolis and large urban centres, and the beginning of a system of trained nursing for the outdoor sick poor. Although the voluntary hospitals had been extended their growth had been quite outstripped by that of the Poor-law infirmaries. With regard to the National Insurance Act, however important the other officials might be, the success or failure of the Act must largely depend on the medical profession. He discussed the present and future effect of the Act on the Poor-law medical service. The information available at present was very limited, but the general experience of Poor-law officials was that it had largely devolved on them to see that the provisions of the Act were put into operation. To them was allotted the duty of seeing whether persons applying for Poor-law relief were insured persons, and if not, why not. The district medical officer was constantly required to say whether an applicant, if an insured person, could be treated at home. One thing was certain, the Poor-law would be required to supply the deficiencies of the new system, and owing to the wording of certain clauses of the Act, it was extremely difficult to resist panel doctors when recommending their insured persons to apply for admission to the infirmary. Certain difficulties would shortly embarrass the working of the Act. They were on the eve of the suspension of medical benefits to deposit contributors, who had not sufficient funds standing to their credit; and to members of Approved Societies

who had fallen into arrear with their contributions. This would be followed by a demand that those who received no benefit should be released from the liability of contributing. Many of the Approved Societies were complaining of the heavy drain on their funds, and it was freely rumoured that unless some drastic steps were taken to lessen the outgoings, the financial stability of the societies would be seriously impaired.

Dr. C. THACKRAY PARSONS read a paper on the Present and Future of the Poor-law Infirmary. He briefly outlined the history of the Poor-law infirmary. With the coming of the infirmaries the medical treatment of the indoor sick poor was revolutionised. At the present time hospitals sent more patients to Poor-law infirmaries than the latter to hospitals. Infirmaries now required all the requisites of general hospitals, and were mostly furnished with them; but the Poor-law infirmary was not so well constructed for its purpose, nor so adequately staffed as the general hospital. It was a mistake to suppose that the infirmary was restricted to the treatment of chronic cases; the average of acute cases was 68 per cent. In the future much more would be expected of the Poor-law infirmary both by the public and patient, and all modern treatment would have to be supplied. The Insurance Act would affect the Poor-law infirmary in two ways: (1) the number of phthisical and maternity cases would be reduced; and (2) there would be an increased demand for institutional treatment. The Poor-law infirmary required a larger staff, and particularly a staff of specialists. In every area there should be infirmaries specially equipped to serve the special needs of an aggregation of unions. There should also be a special training centre for Poor-law nurses. He thought, too, that medical students should be admitted to the infirmary wards.

In the discussion which followed the reading of the papers Dr. MAJOR GREENWOOD argued that it was most useful for Poor-law medical officers to meet and hear the opinions of the chief lay officers of unions. Too many Poor-law medical officers confined themselves entirely to their medical duties and were very ignorant of the Poor-law system. Higher humanitarian ideals were held now than in 1834, and by fuller definitions of the meaning of "destitution" it was possible to bring the ideals of earlier periods into line with those of the present and future. With regard to the effect of the National Insurance Act on the Poor-law Medical Service he observed that the number of medical orders granted in his own union up to the end of the last quarter had shown little if any diminution on the number issued in previous years. With regard to sanatorium benefit, he felt strongly that the present arrangement of including payment for the treatment of tuberculosis in the capitation fees of panel doctors was not calculated to further the national crusade against tuberculosis.

Mr. A. WITHERS GREEN failed to see how medical students could be usefully admitted to infirmary practice, for there was already a dearth of students in the general hospitals. He asked whether the necessary bacteriological work in infirmaries could not be done by the medical officers of health.

Mr. W. HOLDER thought that by the Insurance Act the medical profession had been put into the "stock-pot," and there would be evolved later a new public medical service for the treatment of the people. In his opinion the Poor-law medical service would be greatly relieved, and the public health much better preserved than hitherto.

Surgeon-General EVATT thought the future of the Insurance Act was absolutely assured. The prison and Poor-law medical services had been based on the old bad military service. This had been abolished in the army, and would shortly be reformed in the other services. Democracy would in the future claim for the ordinary citizen the same medical treatment as was given in the Royal palace. He thought the Act would have a profound effect in improving national hygiene.

Dr. PARSONS, in reply, did not agree that there was any serious dearth of medical students. Medical officers of health could not do the bacteriological work of infirmaries: they employed experts as a rule for their own. With regard to increased work being put on Poor-law infirmaries owing to the diminution of the resources of the general hospitals caused by the Act, he admitted that if such were the case it would undoubtedly add to their work. But the evidence up to the present was not conclusive that hospitals would suffer to that extent.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns, with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8930 births and 3920 deaths were registered during the week ended Saturday, July 12th. The annual rate of mortality in these towns, which had steadily declined from 13·5 to 11·2 per 1000 in the six preceding weeks, rose again to 11·4 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 13·5, against 13·3 per 1000 in London during the same period. Among the several towns the death-rates last week ranged from 3·8 in Ealing, 5·2 in Hastings, 5·4 in Willesden, 5·7 in Gillingham, and 6·0 in Hornsey and in Ilford, to 17·2 in Dudley, Stockport, and Burnley, 18·0 in Swindon, 18·1 in Salford, 18·9 in Stockton-on-Tees, and 19·5 in West Hartlepool.

The 3920 deaths from all causes were 96 more than the number in the previous week, and included 344 which were referred to the principal epidemic diseases, against 306 and 281 in the two preceding weeks. Of these 344 deaths, 155 resulted from infantile diarrhœal diseases, 69 from measles, 55 from whooping-cough, 34 from diphtheria, 17 from scarlet fever, and 14 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0 per 1000, against 0·9, 0·9, and 0·8 per 1000 in the three preceding weeks. The deaths of infants under two years of age attributed to diarrhœa and enteritis, which had been 90, 105, and 107 in the three preceding weeks, further rose to 155 last week, and included 48 in London and its 14 suburban districts, 20 in Liverpool, 8 in Leeds, 6 in Manchester, and 5 in Stoke-on-Trent. The deaths referred to measles, which had been 87, 81, and 75 in the three preceding weeks, fell to 69 last week; of this number 20 occurred in London and its 14 suburban districts, 8 in Stoke-on-Trent, 8 in Manchester, and 3 each in Dudley, Birmingham, and Salford. The fatal cases of whooping-cough, which had been 77, 68, and 53 in the three preceding weeks, rose to 55 last week; 9 deaths were recorded in London and its 14 suburban districts, 6 in Hull, and 5 each in Birmingham and in Manchester. The deaths attributed to diphtheria, which had been 23, 31, and 24 in the three preceding weeks, rose again to 34 last week, and included 6 in London and its 14 suburban districts, 5 in Birmingham, 3 in Portsmouth, and 2 each in Stockport, Salford, and Hull. The deaths referred to scarlet fever, which had been 22, 15, and 13 in the three preceding weeks, rose again to 17 last week, of which 5 were registered in London and 2 each in Birmingham, Sheffield, and Newport (Mon.). Of the 14 deaths from enteric fever 2 were registered in London, 2 in Liverpool, and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had risen from 1418 to 1697 at the end of the four preceding weeks, further rose to 1833 on Saturday last; 315 new cases were admitted during the week, against 273, 286, and 314 in the three preceding weeks. These hospitals also contained on Saturday last 862 cases of diphtheria, 381 of measles, 281 of whooping-cough, and 44 of enteric fever, but not one of small-pox. The 960 deaths from all causes in London were 37 more than the number in the previous week, and were equal to an annual death-rate of 11·1 per 1000. The deaths referred to diseases of the respiratory system, which had been 127, 126, and 106 in the three preceding weeks, were 137 last week, and were 10 more than the number in the corresponding week of last year.

Of the 3920 deaths from all causes in the 96 towns, 166 resulted from various forms of violence and 338 were the subject of coroners' inquests. The causes of 33, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London, West Ham, Portsmouth, Bristol, Stoke-on-Trent, Nottingham, Salford, Bradford, Leeds, and in 67 other smaller towns. The 33 uncertified causes of death last week included 5 in Birmingham, 4 in Liverpool, and 3 each in Manchester and in Burnley.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1136 births and 591 deaths were registered during the week ended Saturday, July 12th. The annual rate of mortality in these towns, which had been 14·8, 14·9, and 13·7 in the three preceding weeks, further fell to 13·6 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Scotch towns averaged 16·3, against 13·5 per 1000 in the 96 large English towns. Among the towns the death-rates last week ranged from 5·9 in Falkirk, 8·1 in Hamilton, and 11·5 in Motherwell, to 15·9 in Clydebank, 16·8 in Coatbridge, and 19·8 in Perth.

The 591 deaths from all causes were 4 fewer than the number in the previous week, and included 71 which were referred to the principal epidemic diseases, against 72 and 89 in the two preceding weeks. Of these 71 deaths, 27 resulted from measles, 17 from infantile diarrhœal diseases, 16 from whooping-cough, 7 from diphtheria, and 4 from scarlet fever, but not one from enteric fever or small-pox. These 71 deaths from the principal epidemic diseases corresponded to an annual rate of 1·6, against 1·0 per 1000 in the 96 English towns. The deaths attributed to measles, which had been 34, 35, and 38 in the three preceding weeks, were 27 last week, and included 17 in Glasgow, 4 in Dundee, and 4 in Aberdeen. The deaths referred to diarrhœa and enteritis (among children under 2 years), which had been 8, 12, and 21 in the three preceding weeks, fell to 17 last week, and included 8 in Glasgow, 3 in Aberdeen, 2 in Edinburgh, and 2 in Motherwell. The fatal cases of whooping-cough, which had been 22, 15, and 20 in the three preceding weeks, fell to 16 last week, and included 8 in Glasgow, and 2 each in Aberdeen and in Hamilton. The deaths from diphtheria, which had been 7, 4, and 2 in the three preceding weeks, rose to 7 last week; of these 7 deaths, 4 were registered in Glasgow and 2 in Aberdeen. The deaths from scarlet fever, which had been 3, 5, and 7 in the three preceding weeks, fell to 4 last week, and included 2 in Glasgow and 2 in Aberdeen.

The deaths referred to diseases of the respiratory system, which had been 86, 78, and 71 in the three preceding weeks, rose to 79 in the week under notice; 30 deaths resulted from different forms of violence, against 27 and 24 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 548 births and 356 deaths were registered during the week ended Saturday, July 12th. The annual rate of mortality in these towns, which had been 16·5, 16·7, and 16·4 in the three preceding weeks, fell to 15·5 per 1000 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these Irish towns averaged 19·1 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·5, while in the 16 Scotch towns it was equal to 16·3 per 1000. The annual death-rate last week was equal to 19·9 in Dublin (against 11·1 in London and 14·1 in Glasgow), 14·2 in Belfast, 15·6 in Cork, 8·9 in Londonderry, 16·2 in Limerick, and 11·4 in Waterford, while in the remaining 21 smaller towns the mean death-rate was equal to 11·1 per 1000.

The 356 deaths from all causes were 22 below the number in the previous week, and included 36 which were referred to the principal epidemic diseases, against 27 and 25 in the two preceding weeks. Of these 36 deaths, 15 resulted from infantile diarrhœal diseases, 7 from scarlet fever, 4 from measles, 4 from diphtheria, 3 from whooping-cough, 2 from enteric fever, and 1 from typhus, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·7 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it averaged 1·6 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 6, 11, and 9 in the three preceding weeks, rose to 15 last week, and included 9 in Dublin and 5 in Belfast. The deaths from scarlet fever, which had been 1, 4, and 3 in the three preceding weeks, rose to 7 last week, and included 4 in Dublin and 3 in Belfast. The deaths from measles, which had been 7, 8, and 5 in the three preceding weeks, fell to 4 last week, and included 2 in Waterford. The 4 deaths from diphtheria, which were slightly above the average in recent weeks, occurred in Dublin, as did also the 3 deaths from whooping-cough, which were slightly below the average. The 2 deaths from enteric fever occurred in Limerick, and the death from typhus in Cork.

The deaths referred to diseases of the respiratory organs, which had been 61, 60, and 54 in the three preceding weeks, were 52 in the week under notice. Of the 356 deaths from all causes, 127, or 35·7 per cent., occurred in public institutions, and 7 resulted from different forms of violence. The causes of 10, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

VITAL STATISTICS OF LONDON DURING JUNE, 1913.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 5·4 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the two preceding months the rates were 4·6 and 4·8 per 1000 respectively. The lowest rates last month were recorded in Kensington, St. Marylebone, Hampstead, Holborn, and Wandsworth; and the highest rates in Poplar, Bermondsey, Lambeth, Battersea, Deptford, and Woolwich. The prevalence of scarlet fever showed a considerable increase last month; this disease was proportionally most prevalent in Hammersmith, Chelsea, Lambeth, Battersea, and Deptford. The Metropolitan Asylums Hospitals contained 1579 scarlet fever patients at the end of last month, against 1436, 1353, and 1414 at the end of the three preceding months; the weekly admissions averaged 232, against 183 and 184 in the two preceding months. Diphtheria was rather more prevalent than it had been in the preceding month; the greatest proportional prevalence was recorded in Stoke Newington, Poplar, Bermondsey, Deptford, Greenwich, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month were 811, against 901, 792, and 803 at the end of the three preceding months; the weekly admissions averaged 116, against 91 and 105 in the two preceding months. The prevalence of enteric fever showed a slight decline from that recorded in the preceding month; this disease was proportionally most prevalent in Paddington, Fulham, St. Marylebone, Stepney, and Poplar. There were 35 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 34 and 41 at the end of the two preceding months; the weekly admissions averaged 5, against 4 and 7 in the two preceding months. Erysipelas was proportionally most prevalent in Stoke Newington, Finsbury, Shoreditch, Bethnal Green, Stepney, and Southwark. The 27 cases of puerperal fever notified during the month included 4 in Poplar, 3 in Hammersmith, 3 in Hackney, 3 in Stepney, and 2 each in Islington, Finsbury, Bethnal Green, Lambeth, and Wandsworth. The 9 cases of cerebro-spinal meningitis included 3 in Lambeth, 2 in Stepney, and 1 each in Islington, Finsbury, Southwark, and Camberwell. Of the 13 cases of poliomyelitis 8 belonged to Hackney and 2 to St. Pancras, the remaining 3 belonging respectively to Stoke Newington, Finsbury, and Bethnal Green.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending June 28th the deaths of 3837 London residents were registered, equal to an annual rate of 11·1 per 1000; in the three preceding months the rates had been 17·6, 15·3, and 12·9 respectively. The death-rates last month ranged from 7·9 in Lewisham, 8·4 in Wandsworth, 9·1 in Camberwell, 9·3 in Fulham, and 9·4 in Woolwich, to

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JUNE, 1913.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1913.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON	4,518,191	—	1018	506	—	50	1	27	252	9	13	1876	5·4	—	105	10	39	62	7	90	313	0·9	3837	11·1
West Districts.																								
Paddington	142,210	—	28	11	—	3	—	1		—	—	50	4·6	—	9	—	1	3	1	2	16	1·5	111	10·1
Kensington	171,284	—	38	8	—	3	—	—	6	—	—	55	4·2	—	2	—	—	—	—	2	4	0·3	138	10·5
Hammersmith	123,745	—	43	9	—	—	—	3	4	—	—	59	6·2	—	4	—	1	—	—	—	5	0·5	102	10·6
Fulham	157,117	—	50	10	—	4	—	—	9	—	—	73	6·1	—	—	—	—	1	—	1	2	0·2	108	9·3
Chelsea	64,598	—	22	4	—	—	—	—	3	—	—	29	5·9	—	—	—	—	—	—	—	—	—	55	10·6
City of Westminster	154,810	—	30	14	—	2	—	—	7	—	—	53	4·5	—	3	1	—	—	1	1	6	0·5	121	10·8
North Districts.																								
St. Marylebone	114,532	—	18	9	—	3	—	1	5	—	—	36	4·1	—	—	—	1	1	—	2	4	0·5	103	11·9
Hampstead	86,346	—	10	11	—	—	—	—	3	—	—	24	3·6	—	2	1	1	—	—	1	5	0·8	64	10·3
St. Pancras	214,330	—	37	25	—	—	—	—	14	—	2	78	4·7	—	3	—	1	2	—	5	11	0·7	217	13·2
Islington	325,585	—	49	50	—	4	—	2	12	1	—	118	4·7	—	11	1	6	10	—	7	35	1·4	306	12·0
Stoke Newington	50,518	—	1	11	—	—	—	—	4	—	1	17	4·4	—	1	—	—	3	—	—	4	1·0	48	11·8
Hackney	223,353	—	34	21	—	2	—	3	11	—	8	79	4·6	—	5	—	1	1	1	8	16	0·9	181	10·7
Central Districts.																								
Holborn	46,949	—	6	6	—	—	—	—	1	—	—	13	3·6	—	—	—	—	—	—	1	1	0·3	45	12·5
Finsbury	84,679	—	16	10	—	—	—	2	8	1	1	38	5·8	—	—	—	1	2	—	4	7	1·1	98	14·9
City of London	17,916	—	5	—	—	—	—	—	1	—	—	6	4·4	—	—	—	—	1	—	—	1	0·7	23	17·4
East Districts.																								
Shoreditch	109,654	—	20	17	—	1	—	—	9	—	—	47	5·6	—	—	—	1	1	—	4	6	0·7	101	12·4
Bethnal Green	127,824	—	24	16	—	1	—	2	15	—	1	59	6·0	—	—	—	3	—	1	1	5	0·5	108	11·4
Stepney	275,300	—	48	31	—	13	—	3	21	2	—	118	5·6	—	4	—	2	2	1	17	26	1·2	263	13·0
Poplar	160,913	—	52	28	—	3	—	4	9	—	—	96	7·8	—	9	2	2	4	1	3	21	1·7	158	12·7
South Districts.																								
Southwark	188,487	—	41	14	—	2	—	—	19	1	—	77	5·3	—	7	1	—	3	1	6	18	1·2	201	14·0
Bermondsey	124,739	—	39	23	—	—	—	—	6	—	—	68	7·1	—	12	—	—	7	—	3	22	2·3	133	13·9
Lambeth	297,139	—	109	28	—	1	—	2	13	3	—	156	6·8	—	6	—	2	3	—	5	16	0·7	243	10·5
Battersea	167,464	—	67	14	—	—	—	—	7	—	—	88	6·8	—	1	—	2	2	—	5	10	0·8	129	10·1
Wandsworth	330,395	—	57	27	—	3	1	2	13	—	—	103	4·1	—	5	2	—	3	—	5	15	0·6	214	8·4
Camberwell	261,805	—	48	22	—	1	—	1	16	1	—	89	4·4	—	2	—	1	7	—	4	14	0·7	185	9·1
Deptford	109,280	—	42	21	—	—	—	—	8	—	—	71	8·5	—	10	—	1	1	—	—	12	1·4	98	11·6
Greenwich	96,015	—	19	20	—	—	—	1	7	—	—	47	6·4	—	6	—	3	3	—	—	12	1·6	95	12·7
Lewisham	168,822	—	30	20	—	3	—	—	8	—	—	61	4·7	—	2	—	4	2	—	2	10	0·8	103	7·9
Woolwich	122,382	—	35	26	—	1	—	—	6	—	—	68	7·2	—	1	2	5	—	—	1	9	1·0	86	9·4
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

13·0 in Stepney, 13·2 in St. Pancras, 13·9 in Bermondsey, 14·0 in Southwark, 14·9 in Finsbury, and 17·4 in the City of London. The 3837 deaths from all causes included 313 which were referred to the principal infectious diseases; of these, 105 resulted from measles, 10 from scarlet fever, 39 from diphtheria, 62 from whooping-cough, 7 from enteric fever, and 90 from diarrhœa and enteritis among children under two years of age. No death from any of these diseases was recorded last month in Chelsea; among the other boroughs they caused the lowest death-rates in Kensington, Hammersmith, Fulham, the City of Westminster, St. Marylebone, Holborn, and Bethnal Green; and the highest rates in Paddington, Islington, Poplar, Bermondsey, Deptford, and Greenwich. The 105 deaths from measles were 43 below the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal last month in Paddington, Poplar, Bermondsey, Deptford, and Greenwich. The 10 fatal cases of scarlet fever were 12 below the corrected average number, and included 2 in Poplar, 2 in Wandsworth, and 2 in Woolwich. The 39 deaths from diphtheria showed an increase of 11 over the corrected average; the greatest proportional mortality from this disease was recorded in Islington, Bethnal Green, Greenwich, Lewisham, and Woolwich. The 62 fatal cases of whooping-cough were 13 below the corrected average number; this disease was proportionally most fatal in Islington, Stoke Newington, Poplar, Bermondsey, Camberwell, and Greenwich. The 7 deaths from enteric fever agreed with the corrected average number; 1 death each belonged to Paddington, the City of Westminster, Hackney, Bethnal Green, Stepney, Poplar, and Southwark. The mortality from diarrhœa and enteritis among children under 2 years of age was proportionally greatest in Hackney, Finsbury, Shoreditch, Stepney, Southwark, and Battersea. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 20·4 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Surgeons: G. T. Berry to the *Victory*, for Haslar Hospital, temporary; F. H. Stephens to the *Vivid*, additional, for disposal; R. J. G. Parnell to the *Pembroke*, additional, for Chatham Hospital; and G. B. Scott to the *Pembroke*, additional, for disposal.

ROYAL ARMY MEDICAL CORPS.

Colonel R. J. Geddes, D.S.O., has been appointed Assistant Director of Medical Services to the Devonport District and to the South-Western Coast Defences.

Lieutenant-Colonel R. Caldwell has been appointed to the Southern Command. Lieutenant-Colonel C. C. Reilly has been transferred from Bombay to Darjeeling Cantonment. Lieutenant-Colonel J. Thomson has been appointed officer in charge of the Record Office, Royal Army Medical Corps Depôt, Aldershot. Lieutenant-Colonel H. J. Pocock has taken up duty in charge of the Military Hospital and Cantonment Dispensary at Campbellpore Cantonment. Lieutenant-Colonel M. W. Russell, Deputy Assistant Director of Medical Services to the Eastern Command, has been placed under orders for service abroad. Lieutenant-Colonel J. S. Green has been appointed to hold charge of the Military Hospital at Fermoy. Lieutenant-Colonel J. Fallon has taken up duty at Lahore Cantonment as Senior Medical Officer.

Major A. O. B. Wroughton has been placed under orders for a tour of foreign service. Major G. Dansey-Browning has joined for duty at Gibraltar. Major W. A. Ward has been transferred from Salisbury Plain to the London District. Major W. A. S. J. Graham has been permitted an extension of his tour of service in India for one year. Major S. J. C. P. Perry has been transferred from the Military Hospital at Colaba to Deolali Cantonment. Major E. Brodribb has left Dover for a tour of service at Malta. Major A. H. Safford has been transferred from the Lucknow Division to Naini Tal. Major G. J. A. Ormsby has been appointed to hold charge of the Military Hospital at Landour Cantonment. Major H. S. Thurston has been appointed to the Dublin District. Major W. R. P. Goodwin has taken over charge of the Military Hospital at Cawnpore Cantonment. Major A. H. O. Young has left Strensall for a tour of duty at Jullundur Cantonment. Major J. W. Leake has been appointed to the Military Hospital at Dover. Major G. Mansfield has been granted leave of absence from duty for one month. Major H. K. Palmer has been transferred from the Aden Brigade to the Mhow Division of the Southern Army in India. Major J. Poe has been appointed to the Eastern Command. Major H. A. Hinge has taken up duty at the Cambridge Hospital, Aldershot.

Captain A. Dawson has been appointed to the Dublin District. Captain P. S. Tomlinson, serving in India, has been granted three months' leave of absence. Captain D. F. McKenzie has been permitted an extension of Indian tour of service for one year. Captain C. T. Edwards has been appointed to the Southern Command on return from Peshawar. Captain A. M. Rose has been transferred from Aldershot to Bordon. Captain V. C. Honeybourne has been appointed to the Belfast District. Captain J. du P. Langrishe has been granted three months' leave of absence home from India, with permission to revert to the Home Establishment on expiration of leave. Captain H. T. Stack has been transferred from Bareilly Cantonment to Ranikhet. Captain J. McKenzie has taken up duty at Pirbright. Captain J. De la Cour has taken up duty in the Dublin District. Captain C. H. Denyer has left Agra for Landour Cantonment, Mussooree Hills District. Captain J. James has joined the Military Hospital at Chatham. Captain M. White has been transferred from the Military Hospital at Allahabad Cantonment to Shwebo, Burma. Captain F. A. H. Clarke has been appointed to the Military Hospital at Multan Cantonment. Captain E. W. M. Paine has been transferred from the Military Hospital at Bury to Monmouth. Captain J. B. Grogan has been appointed Senior Medical Officer at Larkhill Camp, Salisbury Plain. Captain E. D. Caddell has taken up duty at Aden as Staff Surgeon. Captain M. D. Ahern has been appointed to hold Charge of the Military Hospital at Watford, Bermuda. Captain A. N. Fraser has taken up duty as Specialist Sanitary Officer in the Straits Settlements at Headquarters, Singapore. Captain P. A. Lloyd-Jones has been appointed Specialist in Ophthalmology at the Cambridge Hospital, Aldershot. Captain A. L. Otway has been transferred from Cosham to Portsmouth. Captain H. T. Wilson has taken up duty at the Military Hospital, Maidstone. Captain C. J. Wyatt has embarked for a tour of service in the Sierra Leone Protectorate. Captain H. Stewart has arrived home for duty from India.

Lieutenant J. D. Bowie has taken up duty at the Military Hospital, Cairo. Lieutenant G. Wilson has been appointed to the Secunderabad Division of the Southern Army in India. Lieutenant W. Bisset has joined the Military Hospital at Rawal Pindi Cantonment. Lieutenant J. D. Kidd has been appointed to the Military Hospital at Secunderabad Cantonment to undergo a course of instruction in Indian sanitation and hygiene. Lieutenant T. A. Weston has left the Aldershot Command for a tour of service in India. Lieutenant P. M. J. Brett has been transferred from the Military Hospital at Cosham to Jhansi Cantonment. Lieutenant T. E. Osmond has been placed in medical charge of troops at Kensington. Lieutenant R. C. Carlyle has been appointed for duty in the London District. Lieutenant W. A. Frost has been placed under orders for a tour of service in India. Lieutenant R. F. Bridges has been transferred from Peshawar to Cherat Cantonment. Lieutenant H. J. G. Wells has taken over medical charge at Poeghane Camp. Lieutenant A. G. Biggam has been appointed to the Military Hospital at York.

INDIAN MEDICAL SERVICE.

Colonel P. Hehir, Assistant Director of Medical Services to the Burma Division, has arrived home on six months leave of absence from India.

Lieutenant-Colonel V. G. Drake-Brockman has been appointed Residency Surgeon at Mewar. Lieutenant-Colonel J. Garvie has been granted three months' privilege leave of absence. Lieutenant-Colonel J. Jackson has arrived home on leave of absence from India.

Major T. Hunter has arrived home on leave of absence from India. Major C. S. Lowson has been appointed Superintendent of the Central Prison at Yaraavda, Bombay, in

succession to Major H. J. R. Twigg. Major W. Lapsley has been transferred as Civil Surgeon from Azamgarh to Bahraich. Major J. M. Woolley, senior medical officer at Port Blair, has been granted privilege leave of absence, combined with furlough, home from India for eight months.

Captain H. Hallilay has relinquished charge of the duties of superintendent of the Lyallpur District Jail. Captain H. H. Thorburn has been appointed Agency Surgeon at Meshed and Assistant to the Consul-General at Khorasan. Captain J. Wilson, at present employed as an Agency Surgeon by the Foreign Department of the Government of India, has been granted two years' leave of absence. Captain J. H. Horton has been appointed to the Bombay Presidency for civil employment. Captain A. F. Babonau, Plague Medical Officer at Jhelum, has been transferred to the Ambala District. Captain W. A. Mearns has been granted two months' extension of leave of absence home from India. Captain C. C. Shaw has been appointed to hold medical charge of the Central Jail at Raipur. Captain W. J. Collenson has been appointed to officiate as Civil Surgeon at Meerut. The services of Captain H. M. Brown have been placed temporarily at the disposal of the Government of Behar and Orissa for employment in the Sanitary Department. Captain M. F. Reaney, civil surgeon at Akola, has been granted privilege leave of absence home from India, combined with furlough, for one year and nine months. Captain A. W. Howlett has been transferred from Mussooree as Officiating Civil Surgeon to Meerut, and placed on special duty.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Eastern Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant Meredith S. Doubble to be Captain (dated April 30th, 1913).

3rd Highland Field Ambulance, Royal Army Medical Corps: Quartermaster and Honorary Captain John Dunn is granted the honorary rank of Major (dated Oct. 7th, 1912). Captain Arthur M. Davie resigns his commission (dated July 12th, 1913).

3rd North Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Charles A. Stidston to be Captain (dated June 7th, 1913).

1st West Riding Field Ambulance, Royal Army Medical Corps: Herbert Barrett Pope to be Lieutenant (dated June 2nd, 1913.)

2nd Welsh Field Ambulance, Royal Army Medical Corps: Lieutenant-Colonel Alfred W. Sheen is seconded under the conditions of Paragraph 112 of the Territorial Force Regulations (dated July 10th, 1913).

2nd Eastern General Hospital, Royal Army Medical Corps: Captain James A. Rooth to be Major (dated July 12th, 1913). Herbert John Walker to be Lieutenant (dated July 16th, 1913).

Lowland Mounted Brigade, Field Ambulance, Royal Army Medical Corps: Captain James Bruce to be Major (dated June 10th, 1913).

3rd Home Counties Field Ambulance, Royal Army Medical Corps: Frederic Edwin Hubert Keogh to be Lieutenant (dated June 13th, 1913).

3rd West Lancashire Field Ambulance, Royal Army Medical Corps: John Rupert Saywell is appointed Transport Officer, with the honorary rank of Lieutenant (dated June 3rd, 1913).

3rd North Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Ernest W. Strange to be Captain (dated June 24th, 1913).

1st Northern General Hospital, Royal Army Medical Corps:—The undermentioned Lieutenant-Colonels resign their commissions (dated July 16th, 1913):—David Drummond and Sir Thomas Oliver.

The undermentioned Majors to be Lieutenant-Colonels (dated July 16th, 1913):—Thomas Beattie and William E. Hume.

The undermentioned Captains to be Majors (dated July 16th, 1913):—George G. Turner and Alfred Parkin.

Attached to Units other than Medical Units.—Lieutenant-Colonel Henry George Falkner, from the Unattached List for the Territorial Force, to be Lieutenant-Colonel (dated July 16th, 1913). Lieutenant Harold L. Heslop to be Captain (dated July 11th, 1913). Major John Ritchie resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated July 12th, 1913).

For Attachment to Units other than Medical Units.—Noel Godfrey Chavasse (late Cadet Lance-Serjeant, Oxford University Contingent, Senior Division, Officers' Training Corps) to be Lieutenant (dated June 2nd, 1913). Peyton Tollemache Warren to be Lieutenant (dated June 9th, 1913). Charles Stewart Wink (late Second Lieutenant, 5th Battalion, The Essex Regiment) to be Lieutenant (dated July 12th, 1913). George James Masson Martin to be Lieutenant (dated June 5th, 1913).

TERRITORIAL FORCE RESERVE.

Infantry: Surgeon-Major Charles John Macalister, from the 10th (Scottish) Battalion, The King's (Liverpool Regiment), to be Surgeon-Major (dated June 2nd, 1913). Lieutenant Victor Llewellyn Young, from the 6th Battalion, The Gloucestershire Regiment, to be Lieutenant (dated July 12th, 1913).

Royal Army Medical Corps.

Lieutenant-Colonel Charles John Jacomb-Hood, from the 2nd Eastern General Hospital, Royal Army Medical Corps, to be Lieutenant-Colonel (dated July 12th, 1913).

HONORARY SURGEONS-GENERAL.

The undermentioned Colonels, retired list, have been granted the honorary rank of Surgeon-General (dated July 16th, 1913). William F. Stevenson, C.B., Honorary Surgeon to the King, late Army Medical Service. Sir Arthur M. Branfoot, K.C.I.E., late Indian Medical Service.

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Mr. R. M. Forde, principal medical officer, Sierra Leone, has retired on pension, and the following have been selected for appointment to the staff:—Southern Nigeria: Dr. K. K. Grieve and Dr. D. T. Birt.

Other Colonies and Protectorates.—Dr. S. O'Flyn has been selected for appointment as a Lady Medical Officer in the Federated Malay States; and Mr. W. T. P. Meade King, Mr. F. C. Doble, and Dr. R. J. A. MacMillan have been selected for appointment as Medical Officers in Uganda.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on July 8th Sir J. N. Dick, K.C.B., in the chair, the sum of £45 was distributed among the several applicants.

THE RED CROSS SOCIETY.

On July 12th the annual War Office inspection of the Greenwich and Woolwich Division of the County of London Branch of the British Red Cross Society took place in Charlton Park, when Lieutenant Carlyle, R.A.M.C., expressed gratification at the work of the Women's Voluntary Aid Detachments.

THE Court of Common Council of the City of London recently had before them a recommendation of the officers and clerks committee that the salary of Dr. F. J. Waldo, coroner for the City and Southwark, should be increased from £1250 to a maximum of £1450 a year, taking effect from midsummer. The recommendation was unanimously adopted.

DONATIONS AND BEQUESTS.—By the will of the late Mr. Charles Thomas Harris, the testator left in stock of the South Metropolitan Gas Company £5000 each to the London Hospital and King's College Hospital; £2000 each to Lord Mayor Treloar's Cripples' Home, Alton, and the Orphan Working School; and £1000 each to the Infant Orphan Asylum, the London Orphan Asylum, the Metropolitan Convalescent Institution, and the Samaritan Fund of St. Thomas's Hospital. He left also £312 Three per Cent. North British Railway Debentures to the Camberwell Provident Dispensary; and his collection of pictures and two Japanese gilt bronze cloisonné bowls upon trust for sale, the proceeds of such sale to be given to King's College Hospital Removal Fund.—The late Mrs. Anne Jane Twyford has left by will £500 to the Liverpool Convalescent Institution at Woolton.—Among the bequests under the will of the late Baron Avebury are the following: £500 to the Royal Maternity Charity of London and £500 to the Royal London Ophthalmic Hospital.

Correspondence.

"Audi alteram partem."

THE TOXÆMIA OF PREGNANCY.

To the Editor of THE LANCET.

SIR,—There is no disease more interesting than the toxæmia of pregnancy, and the study of pregnancy, especially in primigravidæ, in pre-maternity beds, wards, or hospitals, as advocated by Dr. Amand Routh in his Valedictory Address published in THE LANCET of July 12th, and also by yourself in your leading article, is an urgent necessity. The examination of pregnant women from time to time at the out-patient departments of maternity or general hospitals, or at other clinics, is unsatisfactory; and only when those who show symptoms of toxæmia are housed under one roof and kept under close observation is the cause of the toxæmia of pregnancy likely to become known. I have felt this for some time, and in this connexion wish to draw the attention of your readers to those institutions, many of which exist in London, in which single women who have become pregnant are received, and where they live until term, being either delivered in the institution itself or going at the onset of labour to some maternity hospital. These institutions afford most valuable clinical material, and are well worthy the notice of serious obstetricians.

For several years I had the run of such an institution, where, indeed, I first became interested in midwifery. It was there I discovered the pelvic floor musculature hypertrophies in pregnancy; and when I perceived the purpose of this musculature, that it exists to occlude the wide and diamond-shaped outlet of the pelvis, and by resisting the pelvic visceral descent, plays a part in the maintenance of the pressure in the abdomen caused by the tonic or increased contractions of the thoracic diaphragm and abdominal wall, I began to make observations of the pressure in the rectum in the inmates of this home. Great was my surprise when I discovered this pressure in the rectum, which is an index of the pressure in the pelvis in the region of the rectum, and is neither due alone to the weight of superimposed viscera nor to a contraction of the gut musculature itself, was considerably greater in two cases of the toxæmia of pregnancy, which came under my observation, than in other primigravidæ.[1] I remember the first case very well. On my first visit I approached her with an apathy indicative of my ignorance of the disease, but after I had found the pressure in the rectum raised, on regarding her in bed, I saw in a flash the significance of the increased pressures found, and my interest in the disease became absorbing. This occured in December, 1908, and in the next year I stated my view that the toxæmia of pregnancy is due to a mechanical cause, which, as was to be expected, received no attention—the mechanical theory had long since been abandoned and was thought to be dead. Month by month from that time I scanned the review of current literature in the *Journal of Obstetrics* to see how the placental hypothesisists especially were getting on. I found a great deal of work was being done, but always with the same result—no advance, or no material advance, and no illumination. And this, in spite of an army of workers, with plenty of material. So at last I became a little tired of watching this waste of energy, for that is what it seemed to me.

And you, Sir, in your leader have supported this opinion. You say: "Our ignorance, for example, of the so-called toxæmias of pregnancy is most profound; indeed, the very name we apply to these conditions rests upon theories for which there is the very minimum of scientific foundation." I am grateful to you for that. For in the discussion which followed my paper on the Intra-abdominal Pressure in Pregnancy, read before the Royal Society of Medicine on June 5th of this year—which is a step in the argument that the toxæmia of pregnancy is due to a mechanical cause, i.e., an increased pressure within the abdomen—it appeared that the placental hypothesis, or the hypothesis that this disease is a poisoning of the mother by some part or other of the ovum, was more or less established, on pathological, clinical, and other grounds, in the minds of present-day obstetricians, and that I should have great difficulty in upsetting it or in establishing the mechanical theory. And I submit that Dr. Amand Routh in his valedictory address, as reported in your columns, suggests the same idea; he says nothing about any other possibility, his hope lies alone in chemical pathology.

But you, Sir, have spoken in a different key. You have reminded your readers that the placental hypothesis (or any one of the allied hypotheses) is not established, that it has not been proved, and that for all we know it may be wrong. In other words, you suggest that people interested in this disease should keep open minds and be prepared to consider alternative hypotheses, for which all calm and reflective men must feel glad. I, indeed, have not yet proceeded to the attempt either of upsetting the general view or of establishing the view I hold. But I have shown that the pressure in the abdomen and above the uterus is increased in pregnancy, which, although half-heartedly believed in by obstetricians, until then had not been proved, and which in the past has been strenuously denied. It was this denial and the absence of any proof of an increased intra-abdominal pressure in pregnancy which for the time being swept away the mechanical theory of the toxæmia of pregnancy. Without evidence of such pressure the mechanical theory had to go. But men must have some hypothesis to throw stones at, and the placental hypothesis arose. That this, in time, will be relegated to the lumber-room of past and erroneous conceptions I am confident. For an hypothesis that necessitates the belief that the fœtus is an invader, that it *per se* causes, or tends to cause, the disease, and too often the death, of the individual in whom it is developing, and upon whose health and preservation its own life depends, is from the broad biological standpoint an unreasonable hypothesis. It is so unreasonable that had I no other reason to doubt its probability and no alternative hypothesis I should unhesitatingly say, it cannot stand. But time alone will show the soundness—or the unsoundness—of that argument.

But however this be, the work done on the intra-abdominal pressure, published in my paper, was only possible in virtue of the existence of the institution I have referred to; it could not have been done in a recognised hospital. And much might be done for the furtherance of obstetric medicine, especially in relation to the toxæmia of pregnancy, by making use of the clinical material in similar institutions.

I am, Sir, yours faithfully,

London, July 12th, 1913. R. H. PARAMORE.

[1] The pressures obtained are recorded in the list of observations appended to my paper, Proceedings of the Royal Society of Medicine, Obstetrical and Gynæcological Section, June, 1913, Cases 18 and 19.

A ROYAL COMMISSION ON VENEREAL DISEASES.

To the Editor of THE LANCET.

SIR,—The medical profession as a whole has surely welcomed Sir Malcolm Morris's plea for a Royal Commission on Venereal Diseases. The appointment of such a body would signalise the advent of a conviction (to quote Sir Malcolm's words) that "it is better to bring the force of public opinion to bear upon evil things than to ignore their existence." Such a Commission would have to consider these diseases as forming a social rather than a medical category. Each ailment, indeed, would have to be taken in its medical aspect; but the outlook of the Commission would have to be that of statesmen rather than that of doctors.

The prospect of eliminating syphilis is an inspiring one, and could be realised if only ample facilities could be provided (which they are not) and people could be persuaded to use them (which they do not). But in the relatively easy and promising problem of syphilis we must not forget the more difficult but not less pressing problem of gonorrhœa. Its victims are three or four times more numerous than those of syphilis, and its aggregate results to the community are hardly less deplorable. The public are unaware of the seriousness of gonorrhœa, and of the medical profession only a very small number are properly instructed in modern methods of treatment. In hospitals the treatment of patients, as well as the teaching of students, has been for the most part perfunctory; and so it must remain till there is in each general hospital a special department for venereal ailments. Indeed, whether we consider syphilis or gonorrhœa, we are

faced with the absolute necessity of increasing hospital facilities and improving hospital practice. It is practically impossible for the general practitioner adequately to deal with either disease. How these facilities for treatment and teaching can be provided would be the first question facing a Commission.

The next question, not less important, is how to get people to avail themselves of the means provided. Are we to compel them, or are we to invite them? Will compulsion be practicable where there is so great a volume of disease—perhaps 1500 fresh cases a day? Will public opinion support the enforcement of such regulations? Will compulsion do more good by driving patients to be cured, or more harm by driving them to concealment? These are difficult questions.

Again, what methods must the State adopt in order to save its rising manhood and womanhood from the evils that have tainted the lives of the passing generation? Some means must be devised of forewarning young men and women of the dangers that will certainly beset them; instructing them on the practical value of continence; inculcating the urgency of early treatment of disease. Knowledge of facts will not of itself prevent the acquisition of disease; but without some instruction as to facts the average young man hardly has a chance of avoiding it. Yet again, such a Commission would have to face the problem of venereal quackery. Treatment of such patients by unqualified persons is manifestly contrary to the public (and private) well-being; yet now such treatment is the rule rather than the exception. It is, however, impossible to proscribe venereal quackery unless there is first established some adequate system of professional treatment to take its place.

The difficulties to be faced are great, but the importance of facing them is greater still. Look at it from whatever standpoint you may—medical, sociological, economic—no problem can be found which calls more loudly for solution. A Royal Commission would provide us with instruction on the facts, and guidance as to possible remedies.

I am, Sir, yours faithfully,

July 15th, 1913. DOUGLAS WHITE.

POOR-LAW INFIRMARIES AND THE TREATMENT OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—I notice in THE LANCET of June 28th that Sir Malcolm Morris in his plea for the appointment of a Royal Commission to inquire into venereal diseases suggests that no special facilities exist in Poor-law infirmaries for the treatment of this class of case and that "no use whatever is made of salvarsan, no doubt on account of the cost."

Surely many Poor-law infirmaries make use of this treatment. In this infirmary not only are cases of primary and secondary syphilis treated in special wards, but also every case which is considered suitable is given one or more doses of salvarsan; further, cases which come under the notice of the district medical officers are all recommended for admission with a view to treatment; the number of cases is nevertheless small. Prior to the introduction of salvarsan treatment all cases of syphilis with severe symptoms were transferred to the Lock Hospital, for which the guardians paid a guinea per week for the maintenance of each case. That the question of cost does not in any way affect the treatment of patients can be well illustrated in that in the last two cases of tetanus admitted the serum used cost about £7 for each patient.

I am, Sir, yours faithfully,

Lambeth Infirmary, S.E., July 9th, 1913. A. LIONEL BALY.

A CASE OF ANKYLOSTOMIASIS IN BIRMINGHAM.

To the Editor of THE LANCET.

SIR,—Perhaps I may be allowed to report the sequel to my case published in THE LANCET of May 3rd of the present year (p. 1223). I am at last able to report that the stools of the patient are free from ova and embryos. Since April, when, as I stated, I had resumed the thymol treatment, he has had four courses of 120 grs. each time, administered after the method recommended by Dock and Bass (see my former paper). He has not borne them very well, and in consequence the interval, which was formerly a fortnight, has been prolonged to three weeks or a month. His general health is now good. He has had no head attack since that mentioned in my paper as having occurred in March, unless we reckon a slight one at the end of May, which he said was "not like the old attacks."

I am, Sir, yours faithfully,

Birmingham, July 15th, 1913. ROBERT SAUNDBY.

BREAST FEEDING.

To the Editor of THE LANCET.

SIR,—With reference to the series of articles in THE LANCET of June 14th, I admit the justice of Dr. Forsyth's criticism on the variability in the supply of breast milk as illustrated by the test-feed, and I think he is right in pointing out that we cannot justly estimate the daily quantity of milk by multiplying a single feed by the number of feeding times. I also agree with Dr. Cran that it is not necessary to employ the test-feed in the case of a normal infant whose weekly weighings show a satisfactory curve. I have employed the test-feed at my infant consultations during the last six years, and I find it of great practical value in certain cases. For instance, when a child is said to be satisfied with the breast and is losing weight, I have repeatedly found that the child obtained no milk at all. I fail to see how we are to demonstrate this fact to an incredulous mother in any other way except by means of the test-feed.

Then, again, in cases where supplementary feeds of cow's milk are given I find it most advantageous to have some idea as to the quantity which the child obtains from the breast before ordering cow's milk. The numerous cases of vomiting and diarrhœa that I have seen in which the officially recognised quantities have been ordered by nurses and also medical men, without previously ascertaining even the proximate amount which nature was supplying, have impressed on me the importance of giving, at any rate at first, such a dosage of cow's milk that it will not exceed the quantity which the infant has been accustomed to receive. I constantly find that a child 3 months old obtains 1½ ounces from the breast regularly at every weekly test-feed. Some of these infants increase in weight satisfactorily without any supplementary food and are satisfied, whilst others begin to lose ground. In these latter cases I give supplementary feeds of 1 ounce of undiluted citrated cow's milk immediately after the breast feeds. The results are excellent. The mother can continue to feed her child on this combined method for months. It occasionally happens in these cases that the test-feed shows that the breast milk is increasing in quantity, and we are then able to dispense with the supplementary feeds. The economic saving of this method is greatly appreciated by the poor. I therefore maintain that the single test-feed is of educational value to the practitioner and enables the mother to keep her child at the breast for the longest possible period.

I am, Sir, yours faithfully,

Kensington, July 12th, 1913. RONALD CARTER.

THE CORRELATION OF BIRTH-RATES AND DEATH-RATES.

To the Editor of THE LANCET.

SIR,—The annual reports for 1912 of the medical officers of health are now appearing. They show that wherever there is a fall in the birth-rate there is almost invariably a fall in the death-rate. They also show that districts with high birth-rates generally have high death-rates, and that districts with low birth-rates generally have low death-rates. In fact, they seem completely to justify the Malthusian contention that the death-rates are still controlled by the birth-rates, and that so long as a death-rate is above the normal (about 10 per 1000 per annum as in New Zealand) the only way to lower it is to lower the birth-rate—in other words, to encourage a stricter observance of the law of parental responsibility which is the basis of an individualist State. Medical officers of health never draw attention to the close correlation between natality and mortality, but refer the excessive death-rates in their poor districts to bad sanitation, overcrowding, mysterious outbreaks of measles, &c. Is it possible that they are unaware of this close correlation?

I am, Sir, yours faithfully,

BINNIE DUNLOP, M.B., Ch.B. Glasg.

Alexandra Court, S.W., July 12th, 1913.

THE MEDICO-PSYCHOLOGICAL CLINIC.

To the Editor of THE LANCET.

SIR,—I am instructed by the medical committee of the proposed Medico-Psychological Clinic to inform you that the notice which appeared in the *Observer* of July 13th, giving a report of a private meeting held in connexion with the proposed clinic and asking for subscriptions to the same, was not inserted either with the knowledge or sanction of the committee, and the committee wish it understood that when details of the scheme they have in hand are ready for publication these details will be given in the first instance to THE LANCET and to the *British Medical Journal*, and not to any non-professional papers. They regret that this notice has got into the lay press before the medical press had been communicated with.

I am, Sir, yours faithfully,
J. TURNER, Hon. Secretary.

Endsleigh-street, W.C., July 14th, 1913.

THE LADIES' PLATE AT HENLEY REGATTA.

To the Editor of THE LANCET.

SIR,—Justifiable exceptions have been taken by fathers whose sons are at public schools (Eton perhaps excepted, on account of their special advantages) to the fact that the boys are allowed to compete on equal terms for the Ladies' Plate at Henley Regatta with College eights who are years older and much more developed. Such efforts must be injurious to the growing lad on physical grounds. When consulted by parents on this subject I invariably advise them not to allow their boys to compete in such an unequal contest.

I am, Sir, yours faithfully,
SHEPHERD BOYD.

Harrogate, July 11th, 1913.

MEMORIAL TO THE LATE DR. GEORGE ALEXANDER GIBSON.

To the Editor of THE LANCET.

SIR,—Friends of the late Dr. George Alexander Gibson will be pleased to learn that the recent appeal for a fund to establish a "Gibson Memorial Lectureship" has already met with a most gratifying response.

A meeting of those subscribers who have intimated that they wish to join the general committee of the Memorial Fund will be convened some time in October. After this the subscription list will be closed, and a copy, together with the resolutions of the general committee, will be sent to each subscriber.

In case there may be any of the late Dr. Gibson's friends who did not receive an intimation and who might desire to subscribe, I may add that the honorary treasurer of the Memorial Fund is Mr. A. Gray Muir, W.S., 19, York-place, Edinburgh.—I am, Sir, yours faithfully,

GEORGE A. BERRY,
Convener of the Executive Committee.

31, Drumsheugh-gardens, Edinburgh, July 9th, 1913.

A CORRECTION.

To the Editor of THE LANCET.

SIR,—You were good enough to publish in your issue of July 5th an article in which I described the remarkable travels of a cæcum. May I point out that my skiagram was printed upside down and so presented the unfortunate viscus cutting Father William-like capers on its head, the one vagary of which it was actually not guilty.

I am, Sir, yours faithfully,
IVOR BACK.

Wimpole-street, W., July 7th, 1913.

THE LYMPHATICS OF THE LARGE INTESTINE.

To the Editor of THE LANCET.

SIR,—We notice that in the Cavendish lecture lately delivered by Sir Berkeley Moynihan and published in THE LANCET of July 5th, it is assumed that all or almost all the investigations on the lymphatics of the large intestine were carried out on the fœtus. In the paragraph dealing with the lymphatics accompanying the middle colic artery the words "in the fœtuses examined by Jamieson and Dobson" give the impression that we used this kind of material only.

May we draw attention to a statement in the opening paragraph of our paper in the Annals of Surgery, to which reference is made in the lecture: "Our material was drawn from subjects of all ages—chiefly children and young adults—as, except in the case of the appendix, fœtal specimens are not very satisfactory."

Of the 25 specimens of cæcum and appendix examined, 12 were fœtal, and the age of the oldest subject was 61 years; of the 23 specimens of colon, 3 were fœtal, and the age of the oldest subject was 54.

We are, Sir, yours faithfully,
J. KAY JAMIESON,
J. F. DOBSON.

Leeds, July 9th, 1913.

A MEDICAL TRADE UNION.

To the Editor of THE LANCET.

SIR,—The National Medical Guild, a trade union for medical practitioners with branches in all parts of the United Kingdom, will open temporary offices at 13, Old Steine, Brighton, from July 18th to 26th next. An official of the Guild will be in attendance to explain the principles of trade union organisation as they affect the profession. There will be accommodation for such members of the Guild as may desire to hold small informal meetings.

I am, Sir, yours faithfully,
PERCY C. RAIMENT, General Secretary.

34, Villiers-street, Strand, W.C., July 15th, 1913.

THE NEED FOR RESEARCH IN TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—Your leading article on the Need for Research in Tuberculosis (May 10th) is most timely. The worst of the present state is that on such guesswork and conjecture as you describe, and ornamental pathology as Dr. Ewart puts it, legislation and popular rules leading to interference with liberty, ostracism, and unnecessary pain are based, the sufferers being lumped together as infective, whether trained (i.e., against scattering bacilli) or ignorant. And let it not be forgotten it is a pretty large minority whose freedom the campaigners are narrowing.

We medical readers know how to take medical writings and their contradictions, and we make allowances for the cocksureness of certain doctors, but the public cannot discriminate. They are given peptonised headlines by the antituberculosis pundits; they will be told the spray of an apparently healthy but really tuberculous person, in the mere act of speaking, will carry hundreds of bacilli 10 feet, possibly straight into the listener's lung; and they will be confidently assured that "the only way we can prevent spray infection is by keeping people in acute infective states isolated ..... making them stop at home." But nothing is said of the recent testing, with negative results, of the telephones used by consumptives. There is more *éclat* in the physiologist's picture. It has thus come about that the popular attitude (thanks to the military sternness of the campaigners—destroy your enemy wherever you find him, and as soon as possible) towards the consumptive, which used to be one of kindness, pity, and sympathy, is now one of coldness and abhorrence, verging on the lethal chamber. A person with a cough is scowled at, the appearance of a spitting-bottle would disperse a meeting, a hostess will hesitate about asking a trained consumptive to tea, and the hotel manager boldly advertises "No consumptives," although in past times his business might have been built up with consumptives' gold. Your caution, therefore, against false conclusions should be taken to heart by associations and campaign people; reliable investigation on all points and re-investigation of old-accepted truths by modern methods are required before social restrictions and unnecessary pain are inflicted on the sensitive and harassed consumptive, who is suffering from no fault of his own, and who has contributed largely to the world's mental possessions, while the syphilitics and gonorrhœals are flourishing and multiplying without interference.

I am, Sir, yours faithfully,
RALLENTANDO.

July 5th, 1913.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 107.*)

XVI.—LIVERPOOL: DETAILS OF PRACTICE AND THE DOCK WORKERS.

A POPULAR practitioner who lives in the very centre of Liverpool explained to me that some of the insured persons on his list were his old club patients, and that while others belonged to a better class, a third section came from a lower class. He made one remark that I expect to hear often. The children of well-to-do parents, parents who used to pay 5*s.* fees for them, were insured, and this was a serious loss. But he owned that he anticipated an increase of income because he had 850 insured persons on his list who were so poor that, but for the National Insurance Act, he would never have received any payment whatsoever for attending those among them who fell ill, and yet would have felt bound to help them, or some of them, in their need. To get 7*s.* a year regularly from several hundred people who never by any chance paid their medical attendant compensated him for the loss of fees from the sons and daughters of substantial families, as far as money went, but it was not a pleasant change. At the time when this crowd of poor people came to get their red tickets signed he had as many as 80 squeezed together on the steps, stairs, hall, and rooms of his house. Many of them were so dreadfully dirty that afterwards all the carpets had to be taken up and the house turned upside down, for it needed much more than an ordinary spring cleaning. This story of crowding on occasions is not a single one; I heard of one practitioner in Liverpool who had some 700 insured persons at the same time blocking the street outside his door. Such things do not bring conviction of the immediate value of the Act as a measure for the scientific prevention of disease. In contrast with the first practitioner whom I saw, and who is, with qualifications, well satisfied with his position on the panel, I called on another well-known practitioner, who is equally satisfied that he has done right and has also financially benefited by not going on the panel. He told me that he had been in practice in Liverpool for about a quarter of a century, and he also had club patients to the number of close on 1000. Of these, about half belonged to a lodge of Oddfellows, and he offered to attend to all those who were 65 years old, or for some other reason could not be insured, for the annual payment of 8*s.* 6*d.*, drugs included. But over 100 of his old club patients who are insured have decided not to avail themselves of the services of any of the panel doctors. They have created a private fund of their own and pay at the old club rate of 1*d.* per week. If any of these 100 insured persons fall ill they will consult their old club doctor, who, as already explained, is not on the panel and will pay him 2*s.* for attendance at his surgery, or 2*s.* 6*d.* if he visits them. This money will come from the fund created by the 1*d.* weekly payments; and, if it does not suffice, then a special levy will be made. Other societies are now negotiating to make similar arrangements. It seems remarkable and a grave matter that no inconsiderable number of skilled artisans and small tradesmen are thus combining and actually paying weekly subscriptions rather than avail themselves of the medical service to which they are entitled as insured persons. The result is, my informant maintained, that though, in obedience to the decision of the profession, he had given up all his clubs and yet had not joined the panel, his income has nevertheless increased. This is partly due to the fact that he used to treat his club patients in the same manner as his private patients. Had he gone on the panel his club patients would have all followed him and he would have had a very long list. He maintained that club practice could be done honestly and yet it would be sufficiently remunerative. His club patients used to wait in the same room as his ordinary patients and he gave them all the time necessary. Thus many of them will not leave him and prefer paying twice over to seeking advice from a panel doctor.

The Position of the Panel Doctor.

But no general conclusion can be drawn from what is, after all, an exceptional experience. This practitioner had secured the very best class of club patients. Men with good lives did not trouble him often, and having good manners and bearing gave but little inconvenience. Personally he was convinced that practitioners who did not go on the panel would be considered as belonging to a better class of doctor and urged that his own personal experience proved the truth of this opinion. But it is doubtful if this is the case, because the results depend so largely on the individual personality of the practitioner in question.

I called on another practitioner of great experience, and also with knowledge as to the current state of feeling, and he declared that in his own experience there was a regrettable tendency on the part of the general public "to talk slightingly of the panel doctors." He had heard complaints from the public as to the way the administrative work under the Act was done, and this would, he thought, increase. The conditions of work under the Act had been described as "degrading and derogatory," and without going so far as this he suggested that there were defaults and that nothing whatever had been done to improve them. The Act had dragged men into contract work who previously had nothing whatsoever to do with this style of practice. But he did not deny that the Act had been followed by improvements in the standard of medical practice. Some who lived by the cheapest forms of contract practice had been, he thought, hardly hit by the new legislation. Their former patients had consulted them because it was cheap, and now were going to other men whom they preferred and whose names are on the panel. He maintained there should be a wage limit, as persons with more than £2 a week could pay a few pounds now and then for medical attendance, for they were not ill every year. Then, the better-class servant, for whom the usual fees were paid, was much worse off under the Act, but the less fortunate servant, who was apt to be sent to the workhouse infirmary by her mistress, was now in a better position. Thus every advantage had its counterbalancing disadvantage, but he did not think the Act could remain without considerable amendment. At present it was bringing into existence two classes of doctors, and this was, he declared, becoming more and more apparent. In Liverpool insured people were breaking away from what they considered to be the inferior panel doctor. Consequently a partial collapse in the working of the Act might, he suggested, be anticipated, perhaps leading up to the establishment of a State Medical Service. He saw no other solution of the difficulty, and even thought that such a service would be better from the scientific point of view.

Limiting the List of Insured Persons.

In Liverpool I came across a leading physician who was quite angry at the idea of restricting the number of persons to be inscribed on any panel doctor's list. It was the doctor's affair, he maintained, and if he attempted to do too much it was for the patients to find this out and to leave him. There must be no interference with a medical practitioner; he must be left to do what he liked. On the other hand, he seemed to think it was quite right to impose a wage limit on the patients. This did not interfere, he urged, with their money-making faculties. I objected that buying in the cheapest market was commonly thought to be one of the processes very generally needed in money-making, but he only admitted the strong case that existed for a wage limit, a reform in contract practice that was so evidently needed in the old days of "the Battle of the Clubs." The law does seek to protect the public by interfering with medical practice so as to ensure that those who give medical advice should not falsely pretend to be fully qualified. The question might be put whether there is not a limit which is beyond human power—a limit where no man is competent to attend to so many patients in so short a time. It is quite an exception to find anyone, whether in medical practice or a layman, who does not recognise that something should be done to limit the number of insured persons entrusted to the care of any one panel doctor. The contrary view is so rarely expressed that I have made a special note of this instance.

Casual and Dock Labour.

Not only from the point of view of the application of the National Insurance Act, but also in regard to the general interests of humanity and of the public health, by far

the most important achievement in Liverpool is the successful establishment of clearing houses for casual and regular dock labour. For 20 years and more dock labour has been discussed as an economic problem that greatly troubled both social and sanitary reformers. One of the principal difficulties is the irregularity of the work. Men came from Ireland and from rural districts whenever there was an extra demand for labour at the Liverpool dock. Then, instead of returning to their homes when the work was done, they remained in Liverpool as casual labourers and loafers, thus creating a pauperised population that lived from hand to mouth under insanitary conditions, falling an easy prey to any epidemic of zymotic diseases. The problem resolved itself into the transforming of casual into regular labour. If 20 men came to Liverpool and subsequently only 10 men were needed, it meant that the 20 men would be but partially employed, earning not more than some 10*s.* a week each, and their families would go on the rates. How could the Insurance Act be worked among such a poverty-stricken crowd? But if only 10 men remained, then they would have more work, earn 20*s.* a week each, and no one would go on the rates. We should have 10 comparatively healthy families. As for the other 10, they would get nothing at all, and therefore would have to look for something else or go back to their own county. But if they could, as formerly, get about 10*s.* a week, insufficient as this sum undoubtedly is, still they would stop for ever in Liverpool and develop into loafers. It was therefore a question of choosing between 20 loafers or 10 good men.

The Dockers' Clearing-House.

Two years ago, before anything was known of the Insurance Bill, work was commenced in the preparation of a dock scheme. Stimulated by the Insurance Act, this scheme was definitely adopted during the summer of 1912. So far ago as 1903 Miss Eleanor Rathbone, among many others, had made a very remarkable investigation on the subject. The facts were set forth in her report on Dock Organisation for the Liverpool Economic and Statistical Society. But it needed the Insurance Act, or the proposal to establish a clearing-house would never have been realised. As Miss Rathbone pointed out, the "irregularity of employment is much greater than is arithmetically necessary to balance the irregularity of the amount of work in the port." Then, as every employer does not need the maximum of labour on one and the same day, by pooling labour and assuring its mobility, fewer men will be wanted, but they could be given something more approximate to regular employment and therefore better wages. This work the Labour Exchange of Liverpool has undertaken; and it is now carrying out the Insurance Act on behalf of all the great shipping companies as sanctioned by Section 99 of the Act. At the Labour Exchange itself a central clearing or sorting-house, under the Board of Trade and the skilful management of Mr. G. H. Edwards, has been established; while in the docks themselves there are six local clearing-houses. They relieve the employers or shipowners of all the work and responsibility of stamping the insurance cards and of paying the dockers' wages. To-day the dock labourer does not keep or show his card, and the person who enlists his services at the dock gates is not interested. The employers have to keep a deposit account with the Labour Exchange equal to 7*d.* a week each for the maximum number of persons they are likely to employ. At the end of the week the employers send to the Labour Exchange clearing-house their wages sheet, and these end at 5 P.M. on Fridays. But the insurance period ends at midnight on Sunday, a discrepancy which is accountable for much bad language. The employers forward at midday a cheque for the sum due for wages, and the total received every week is about £25,000. This does not, however, represent all the money the dockers earn. Though all but two small firms are in the scheme, some firms have private windows at the clearing-houses and pay their own men direct. Each docker is registered since July 1st, 1912, the scheme starting on the 15th following. He was given a brass tally disc, with a number and a letter corresponding with the clearing-house area in which he is registered.

Moral and Material Benefits.

In the old days, owing to the number of different employers for which a docker worked, he might have to spend his Saturday afternoon going from one to the other to collect what he had earned from each. Incidentally he was apt to refresh himself too frequently on the road. Now the whole of these different sums are paid at the one clearing-house situated nearest to the docker's home. Thus there is less temptation to drink on the way, less loss of time, and more money for the healthy upkeep of the family. The publicans of Liverpool freely acknowledge that the establishment of the clearing-house system has greatly reduced the sale of intoxicants, and there are more public-houses in Liverpool to the acre than in any other town. But as there are about 31,000 dockers, to centralise for each individual the wages due to him, and to deduct therefrom the money necessary for his insurance, involves a vast amount of clerical work. In order that the man may be paid between 11 and 6 on Saturdays, the clearing-house clerks have to work all Friday night. There are folding beds in their offices, for sometimes they get two hours' sleep in the early morning. A hundred men are thus employed, but of these there is a staff of 60 relief clerks for the Friday night. Whether a man works only half a day or the whole six days the 4*d.* is deducted for the insurance stamps. Thus the working of the Act is fully assured in every respect, and this just where its application would have been most difficult but for the clearing-house system. Of course, the medical profession is the first to benefit from this admirable organisation. Just among the population where formerly any sort of payment for medical attendance was most problematical and difficult to obtain, the money is now coming in with absolute regularity. Then, as a saving in human suffering and in public expenditure, the dockers are now, with the aid of the organisation established, enjoying something more like regular employment and wages. Already a distinct improvement in the physique of those who have been thus favoured is remarked. Therefore we find less need of medical care—in other words, less work but not less remuneration for the panel doctors, less call for poor relief, and greater general prosperity in the homes of the Liverpool dock labourers. Considering that they used to constitute one of the most forlorn and hopeless sections of the population this result, though to some extent only an indirect consequence of the Insurance Act, is one of the most encouraging facts it has been my good fortune to record. It is to be hoped that the method will be extended elsewhere. Liverpool is so prominent a city that its example should spread far and wide.

(To be continued.)

THE CANADIAN MEDICAL ASSOCIATION:

FORTY-SIXTH ANNUAL MEETING IN LONDON, ONTARIO.

(FROM OUR OWN CORRESPONDENT.)

IT is now about 16 years since the Canadian Medical Association met in London, Ontario, although the city is admirably adapted for such meetings. London is well served by railways, both from Canada and from the United States, and the hotel accommodation is adequate though not elaborate. The principal hotels are roomy and the fare excellent as regards quality and quantity, but some criticism may be justly directed against them for their lack of modern methods. A comparison between London, Canada, and London, England, is striking and amusing. There are a Thames, a Piccadilly, a Blackfriars Bridge, and a St. Paul's Cathedral in both, and one cannot but be struck with the similarity of street and other names which is constantly noticeable. London in Canada is a well-kept city, with a population of between 50,000 and 60,000. It is clean, well built, and the chief residential streets are embowered in foliage. Trees are everywhere visible, and the city presents in summer a remarkably fresh appearance. Its buildings are good, and it looks what it is, a typical prosperous Canadian city.

The meeting, which began on June 24th, was attended by about 350 medical men from Canada and the United States. Owing to its comparative nearness to Chicago and Detroit many well-known medical men from across the border took part. From Johns Hopkins University came two distinguished

members of its medical faculty, Dr. Lewellys Barker and Dr. T. S. Cullen, both Canadians. The President was Dr. H. MACCALLUM, a teacher at the London Medical School and consulting physician, highly respected not only locally but throughout Canada, both by the profession and the public. Of the sections held on the first day that on Public Health, presided over by Dr. HELEN MACMURCHY (Toronto) was the most generally important and interesting.

A report of a special committee on

Medical Inspection of Schools,

by Dr. JOHN STEWART (Halifax), who had gone to Edinburgh to receive the LL.D. degree from his alma mater, was read in his absence by Dr. FIDLAR, of the London Institute of Public Health. Dr. Stewart first reviewed the work done in all the provinces, and referred to the sympathetic interest of the Hon. Dr. Pyne in Ontario. Medical inspection of school children in Canada he considered as yet in an elementary stage. There had been progress in the cities owing to the efforts of the few, but there was still apathy in the smaller places, and this would continue until a national standard could be evolved. A national public health service was therefore needed to deal with such questions as immigration, sanitation of factories, control of disease, adulteration of food, as well as with medical inspection of schools.

Dr. HALPENNY (Winnipeg), in discussing the question whether medical inspection of school children should be under the control of the education authorities or of the Board of Health, said that he had seen the working of both systems—of the first in Great Britain and of the last in the United States. On the whole, he was in favour of the British system, because politics dominate health departments much more than they do education boards in the United States and in Canada. He thought, however, that the conditions prevailing in Canada supplied the strongest argument for the establishment of a federal bureau of health, for under such a board local politics could not rule.

Dr. ADAMI agreed that in the existing state of affairs the education authorities were better fitted to cope with the situation successfully. He also urged earnest coöperation between school boards and boards of health.—A committee was appointed, consisting of Dr. Halpenny (Winnipeg), Dr. Hutchinson (Westmount), and Dr. Park (Edmonton), to deal with the question of a federal health board, the jurisdiction of health officers over separate schools, and with other matters which had been raised during the discussion.

Venereal Diseases.

Dr. H. W. HILL (medical officer of health of London) read a paper in which he compared syphilis to typhoid fever, and declared that if it was criminal for a city to allow its citizens to drink polluted water it was far more criminal to allow venereal diseases to spread, destroying the race, and blasting future generations.

Dr. ADAMI advised that the moral aspect of the matter should be ignored and that the profession should confine themselves solely to the physical standpoint, not because the profession was not heartily in accord with the view of the moralists, but because the outlook of the profession was purely physical.[1]

Dr. F. A. CLARKSON (Toronto) read a paper advocating the establishment of segregated areas and medical inspection as a means for checking the spread of venereal disease.

Dr. E. WODEHOUSE (Port Arthur) said that in Fort William there was a segregated area, and that whilst this system had been in existence it appeared to have prevented the spread of venereal disease.

Dr. HALPENNY did not believe that the establishment of segregated areas was of any avail in controlling the spread of such diseases. He thought that shop and factory girls were the main factors in disseminating infection. Prostitutes were, as a rule, careful to avoid disease, which interfered with their living. He held the opinion that segregation was, and always must be, a hopeless failure, but suggested that hospitals and gaols be required to report on all cases of venereal disease coming under their notice.

Dr. ADAMI emphasised the necessity for obtaining statistics before any opinion as to the prevalence of venereal disease could be formed. A committee was appointed to deal with the subject and report thereon.

Reports of Committees on Medical Inspection of School Children and on Venereal Diseases.

Reports of the committee on medical inspection of school children and on venereal diseases were handed in on June 25th. The chief recommendation made in the first report was that for the present the inspection of children should be made by an appointee of the school board, working in conjunction with the medical officer of health. The matter was finally deferred until the meeting of next year, though the general sentiment of the committee was undoubtedly in favour of leaving such inspection under the control of the educational authorities.

Professor HARRIS presented the report of the committee on venereal disease, in which it was recommended that provincial boards of health should be requested to make venereal disease notifiable. While doubt was expressed as to the probable success of the plan, it was felt that, as in the case of tuberculosis, a commencement had to be made at some time or another to induce States and municipalities to take effective measures against venereal diseases.

The first general meeting was held on June 24th. After an address of welcome by the Mayor of London and the appointment of the executive committee, Dr. J. ALEXANDER HUTCHISON (Montreal) delivered the

Address in Surgery.

Dr. Hutchison gave a lucid review of the present-day treatment of fractures, illustrating special points by examples drawn from his own experience during many years' service at the Montreal General Hospital, which, owing to its situation in the heart of the poor district of Montreal and to Montreal being a large seaport, obtained more material than any hospital of Canada. He urged that the Canadian Medical Association should endeavour to have defined by law the status of medical men in relation to suits for malpractice, pointing out that since radiography had been introduced skiagraphs of fractures were made use of frequently in lawsuits, usually to the detriment of the medical profession. No layman or lawyer, he said, was competent to say whether a skiagraph was a true picture of the existing conditions. They did not know the pathological aspect of the case. Experts alone should decide. Dr. Hutchison eulogised the recent report of the British Medical Association's Commission on Fractures, and remarked that a report on the same subject, part of which had just been published in the United States, bade fair to throw further light on this question.

Address in Gynæcology.

This address was delivered by Dr. T. S. CULLEN, of Johns Hopkins University, Baltimore. The address was an eloquent and earnest plea for the campaign now being waged in the United States against cancer. A wide dissemination of the modes of recognition of the early symptoms of cancer, especially in women, by means of the public press and by popular literature is being undertaken at the instance of an influential section of the medical profession of the United States. Dr. Cullen pointed out that cancer was neither a blood disease nor incurable. The knife would effectually remove a cancerous growth if the disease were dealt with sufficiently early, but, mostly from ignorance, little notice was taken of early symptoms. He described the ways devised to educate the public of the United States in the early detection of the disease. At the Congress of Clinical Surgeons of North America in New York last autumn it was decided that the public, and particularly women, would be best reached through the press and the magazines. After due consideration it had been concluded that a lay writer thoroughly informed as to the main facts would be better able than a medical writer to put the matter clearly before the community. Proprietors and editors of the principal newspapers and magazines had willingly coöperated. According to Dr. Cullen the results of such articles had been highly satisfactory. Medical men from all parts of the country had reported that large numbers of men and women had been influenced by the popular press and magazine propaganda to seek early medical advice. He urged that if the women could be induced to

[1] Dr. Adami's address on this subject at the meeting of the Canadian Medical Association at Edmonton last year was published in THE LANCET of Nov. 2nd, 1912, p. 1199.

appreciate the necessity for an early recognition of cancer the men would readily follow suit. The diagnosis of variously situated cancers was discussed, and the great difficulty of diagnosing gastric cancer without an exploratory operation was emphasised. He urged the wisdom of removing all breast nodules for immediate microscopical examination. He remarked upon the dearth of well-trained skilful surgical pathologists, giving as a reason their inadequate payment. Every hospital should have a surgical pathologist on its staff. The great surgeon of the future would also be a great pathologist. Dr. Cullen deprecated the lack of business methods prevalent in hospitals. He advocated a campaign against cancer in Canada on the lines of that in the United States.

London, Ontario.

(To be continued.)

BRISTOL AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Medical Inspection of the Port of Bristol.

IN the annual report of the medical officer of health for the port of Bristol attention is drawn to the inadequacy of the provision for efficient inspection. The steam launch *Luath*, which did the work for 19 years, became unfit for use in 1912, and it has been necessary to make shift with tugs since that time; but under such conditions adequate patrol work is impossible, and a launch larger and more powerful than the *Luath* is badly needed. It is pointed out that infection of the port, which would cost the city a very large sum indeed, can only be prevented by a thorough patrolling of the Bristol Channel; and that this calls for the appointment of a whole-time port medical officer with an assistant, and a double crew with a relief crew, at an outlay not exceeding £650 year. The present cost of inspection barely exceeds £100 per annum; but this is based on the conditions of thirty years ago, since when the work of the port has increased and widened enormously. Figures are given which show that much ampler provision is made at other British ports, and it is to be hoped that Bristol will cease to follow the "penny wise and pound foolish" policy which lays her open to such risks.

Winsley Sanatorium.

At the annual meeting of this sanatorium the report was adopted. An interesting discussion arose in regard to the selection of patients for admission to the sanatorium. In former times this was carried out only on the recommendation of two persons—the practitioner in charge of the case and a member of the voluntary "consultative board." When the National Insurance Act first came into operation, the consultative board felt unable to do gratuitous work for State-supported patients, and consequently some unsuitable cases gained access to the sanatorium, since there was no "second opinion" to make a selection. It is claimed, however, that the opinion of the tuberculosis officer, who is now called upon to judge of the merits of each application for sanatorium treatment under the Act, is of even more expert value than that of the consultative board, and that therefore the sanatorium is quite properly safeguarded against unsuitable admissions. At the meeting the medical men present expressed satisfaction with the present arrangements for admission, so that for good or ill those arrangements will now be in the hands of the tuberculosis officers of the neighbouring districts.

Bristol General Hospital: Presentations.

Many old Bristol students will hear with interest of the retirement from active service of two sisters who have been familiar figures at the general hospital for many years. Miss Bailey, better known as Sister Thomas, and Miss Dale as Sister Fry, held these posts for 25 and 20 years respectively, and received presentations at a meeting held at the hospital.

Death of Mr. Joseph Storrs Fry.

In the death of Mr. Joseph Storrs Fry at the age of 87 Bristol loses not only her most conspicuous and beloved citizen, but also the most experienced and distinguished of her hospital administrators. He became a member of the committee of the General Hospital in 1887; in 1892 he became chairman, and from 1903 till his death was president of the institution. From 1892 onwards he was also treasurer. His contributions to the funds were many and liberal, and a male surgical ward bears his name. It was not, however, in such material ways that his beneficent influence was mainly felt. He was a man of the deepest religious convictions, and he believed above all things in thorough performance of all public duties, so that he gave to the hospital unsparingly of his time, energies, and remarkable business abilities. The prestige of the hospital was very largely founded during his long connexion with it. It is hard to realise that his familiar figure will no longer be seen in the corridors. At his funeral service at the Friends' Meeting House in Rosemary-street, and at the memorial services held at the Cathedral and at the General Hospital, the committee and the staff were represented.

Hunterian Professorships for Bristol Surgeons.

At a recent meeting the Council of the University of Bristol tendered its congratulations to two of the teaching staff of the Faculty of Medicine, Mr. E. W. Hey Groves, surgeon to the General Hospital, and Mr. A. Rendle Short, assistant surgeon to the Royal Infirmary, on their appointment to Hunterian professorships of the Royal College of Surgeons of England. Professor F. H. Edgeworth was also congratulated on the invitation which he has received to lecture in the Uniyersity of London.

Barnstaple Board of Guardians and the Ilfracombe District.

At the last meeting of the Barnstaple board of guardians it was reported that the account of Mr. A. Osborne, who is acting as medical officer for the Ilfracombe district until a permanent appointment is made, amounted to £81. It is now some months since the district medical officership for Ilfracombe has been vacant, as already mentioned in THE LANCET, and it will continue to be so until the guardians offer an adequate remuneration; had they done so in the first instance the present unsatisfactory situation would have been avoided.

The late Mr. G. F. Maberly, M.R.C.S.

Mr. George Frederick Maberly died recently at his residence at Burnham, Somerset. He received his medical education at St. Bartholomew's Hospital, and qualified M.R.C.S. in 1866. Mr. Maberly, who was in his ninetieth year, had retired from active medical work for many years. He was a devoted worker and speaker amongst the sect known as the "Brethren," and was very generous towards the members. He took an active part in all local matters at Burnham. Mr. Maberly was deeply interested in all oriental matters, and was one of the best Hebrew scholars in the West of England. He was much esteemed in the neighbourhood, and his interesting personality will be much missed there.

Gloucestershire Insurance Committee and Tuberculosis.

At the last meeting of the Gloucestershire Insurance Committee it was reported that up to the present time no suitable case either of "dependent or insured" who suffered from pulmonary tuberculosis had been refused admission to a sanatorium.

New Isolation Hospital in Somerset.

At the last meeting of the Somerset county council it was decided to apply to the Local Government Board for sanction to borrow £11,000 for the purpose of the erection of a new isolation hospital at Frome.

Tuberculosis Medical Officer for Plymouth.

At a special meeting of the Plymouth sanitary committee held on July 4th it was decided to recommend the Plymouth borough council to erect a dispensary for the treatment of tuberculosis, and to appoint a whole-time tuberculosis medical officer at a salary of £500 per annum.

Torbay Hospital, Torquay.

The new X ray department which is being added to the Torbay Hospital will shortly be opened. It will be under the direction of Dr. R. Allan Bennett, who is the honorary medical officer in charge of the electrical department of the institution.

July 15th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Home for Epileptics, Maghull.

THIS institution has accommodation for311 patients, 169 male, 142 female. The prominent feature of the home is the treatment by provision of healthy and interesting work and occupation as far as possible in the open-air; patients receive training both in work and in play with excellent results. During the past year the total mortality from all causes was 2·28 per cent., the mortality from actual fits was only 1·1 per cent. Twenty-four cases had no fits during the year, and in many cases the number of fits had markedly diminished. At the recent annual meeting a new home was opened for patients of the working class and as a residence for the nursing staff. The money was given to the amount of £3000 by a grant from the estate of the late Sir Alfred L. Jones, after whom the home has been named. A still further enlargement is to be made, the late Thomas Bartlett having left £2000 to build another block for male patients.

The Abattoir Question.

The city council have again considered the site for a new abattoir. It may be remembered that at present the abattoir and associated trades are in the centre of the city close to the University, the Royal Infirmary, and the Brownlow Hill Workhouse, and that the district is a crowded business area. The medical profession protested against renewing the lease about 20 years ago, and medical opinion has continued to condemn the site as prejudicial to the health of the community, but vested interests and the difficulty of providing another site which will meet all requirements have so far prevailed over health considerations, and the much-needed removal of a crying evil is put off to the Greek Kalends. After considering the city surveyor's report on the Pumpfields proposed site, the council gave power to a committee to enter into negotiations for the purchase of what is known as the Love Lane site, which was decided against last year. The members of the Liverpool Meat Market, Limited, have already had a meeting and protested against all action on the part of the city council until the various sections of the trade have been consulted. So the thing drags on.

July 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Graduation Ceremonial at Edinburgh University.

IN the McEwan Hall on July 11th, Principal Sir William Turner, Vice-Chancellor of the University of Edinburgh, conferred 62 degrees of Doctor of Medicine, 3 degrees of Master of Surgery, 98 degrees of Bachelor of Medicine and Bachelor of Surgery, 1 degree of Doctor of Philosophy, 3 degrees of Doctor of Science, 19 degrees of Master of Arts, and 25 degrees of Bachelor of Science. The Vice-Chancellor was supported by the Senatus, and the candidates for degrees were presented as follows:—Medicine: Professor A. Robinson and Professor H. B. Littlejohn. Arts: Professor Lodge. Science: Professor Geikie. Various diplomas were also awarded, and a number of scholarships and prizes were intimated An organ recital was given by Mr. T. H. Collinson, organist to the University. Professor Robinson, at the close of the ceremony, delivered the customary address, in the course of which he said that for many years the conditions under which the new graduates faced their work remained practically unchanged. No new laws were made which either helped or hindered them, and they were permitted to proceed about their own affairs without the intervention of politics. To-day, however, those who had taken their medical degree had joined a profession which had been made a pawn in the business of party politics—a business which appeared to have no regard either for truth or justice, unless these happened to be associated with party advantage. It seemed impossible to make a party politician consider national before party interests, unless it was made clear to him that things would be made very unpleasant both for him and his party. They of the medical profession must combine to form a strong and compact body in order to strike firmly and decisively in the interests of public health, which were the interests of the medical profession. Failure to form such a combination, or the formation of small competing combinations, would inevitably mean that the interests of the profession would be bartered for political advantage, which was not necessarily the public advantage. Whether the new conditions would result in the preponderance of good or evil nobody could say. Certainly they would result in both good and evil. It was quite clear that the ill-considered and hastily passed law which had created the present position would require much consideration before some sections of the contributory public and the medical profession received fair treatment, and it was not improbable that the time would come when medical men would have to fight for proper hours of labour and relief from clerical work to get time to attend to the advancing knowledge of their profession. These ends would not be gained except by united action.

Leith Burgh Insurance Committee.

The chairman, in a review of the first year's work, said that there had been 64 applications for sanatorium benefit, of which 55 were recommended for institutional treatment. About 540 visits to the dispensary had been paid for by the Committee, amounting to £67 9*s.* 3*d.*, and the expenditure (for about 10 months) was £851 for sanatorium and dispensary treatment. There were 46 doctors on the Leith panel, 22 resident in Leith and 24 in Edinburgh, and the figures received gave an average of six to seven attendances, and from three to four visits per day per doctor. In the report by the Scottish Insurance Commission the average number of insured persons to each doctor on the Leith panel was given as 539. This low average was obtained by dividing the insured persons in Leith equally among the 46 doctors on the panel, but as 24 of these doctors were resident in Edinburgh and had really very few Leith persons on their lists, the average was really much higher, being slightly over 1000.

Glasgow Royal Infirmary: Post-graduate Courses.

As in former years, a comprehensive course for graduates will be held during September. This course will include the following classes: Clinical medicine, clinical surgery, operative surgery, surgical diagnosis, clinical gynæcology, electrotherapeutics, urology, clinical examination of the urine and digestive products, anæsthetics, diseases of the ear, skin, throat and nose, and eye. The latter course is one specially designed with relation to school medical inspection and treatment. Complete syllabus and any other necessary information may be obtained from the superintendent of the infirmary.

Measles in Aberdeen.

There were 598 cases of measles in the city of Aberdeen during the month of May, and the deaths were exceptionally numerous, amounting to 69, of which no fewer than 56 were of children under the age of 3. The case mortality reached the exceptional height of 11 per cent. The medical officer of health states that neither the proportion of cases of lung complications nor of convulsions among the fatal cases was above the average; the virulent character of the infection appeared to be the chief reason for the high mortality.

Doctors and Insurance.

On July 4th, in University College, Dundee, a conference of the Scottish Committee of the British Medical Association with representatives of the Local Medical Committees was held. In brief, the conference arrived at the following conclusions with regard to the working of the National Insurance Act:—

That the name of the illness should not be inserted in the certificates.
That the suspension of sickness benefit in venereal disease is injurious to the nation as well as to the individual.
That contracting out for the services of unqualified practitioners should not be allowed.
That the Midwives Act should be introduced for Scotland without delay.
That in rural practice the mileage question can only be settled on the basis of a one-mile limit.
That Insurance Committees should be asked to send any proposed agreements to the Medical Committees at least six weeks before the agreement must be concluded.
That the service of medical referees should be established by the Insurance Commissioners.

The following resolution was ordered to be communicated to the general press:—

That this conference protests emphatically against the charges of

encouraging malingering which have been brought against practitioners by officials of Approved Societies and others in recent utterances published in the press, and demands that such charges should at once be substantiated or withdrawn.

Tuberculosis Sanatoriums.

Stonehaven has agreed to acquiesce in the scheme proposed by the county council—namely, that a pavilion should be built at the Stonehaven Isolation Hospital for advanced cases of tuberculosis, and that other patients should be sent to the joint sanatorium which it is proposed to erect by the counties of Kincardine and Aberdeen, and by the city of Aberdeen.

Honorarium to Dr. Matthew Hay.

At a meeting of the Aberdeen Burgh Insurance Committee held in Aberdeen last week Dr. Matthew Hay, medical adviser to the Sanatorium Benefit Committee, was unanimously voted an honorarium of £100. The proposal originated in the Sanatorium Committee, who felt that Dr. Hay had given to the work an amount of time and of experience which they could not very well pay for. If the work done by the committee was as efficiently done, if not more efficiently, compared with any other similar committee in Scotland, it had been due to the coöperation of Dr. Hay, who brought into existence his splendid machinery for dealing with the sanatorium benefit. As a proof of the excellence of the arrangements, a member stated that since the beginning of July, 1912, 187 applications for sanatorium benefit had been received and 181 granted, and practically in no case had any notification of consumption been made to the local authority that had not been followed up by the Sanatorium Committee. The meeting also placed on record their appreciation of the services of Dr. G. S. Banks, of the City Hospital, who had been giving assistance in sanatorium cases at the City Hospital, although he was not an adviser to the committee.

July 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculosis Scheme in County Galway.

AT a recent meeting of the Galway county council a scheme was put forward by the chief tuberculosis officer of the county. His suggestion was that the county be divided into six or seven areas, in each of which there should be a branch tuberculosis dispensary, for which the county council should appoint six or seven part-time tuberculosis officers at £75 a year each. "It happens," he added, "that the Insurance Commissioners are about to appoint for practically the same areas a number of medical men to act as medical advisers or referees at salaries of £75 each, and that it would be practical to combine the two positions." The appointment both of "medical advisers" and of part-time tuberculosis officers was subsequently objected to by the medical profession. The intention of the Commissioners in attempting to appoint "medical advisers" is, as in Dublin and elsewhere, to oust medical practitioners from signing certificates for their patients. The sum at the disposal of the Commissioners being insufficient to persuade medical men to break their pledges, the attempt was made to make the bribe larger by combining with the post of "medical adviser" that of part-time tuberculosis officer. The effect of appointing such part-time officers would be to deprive medical practitioners of any share in domiciliary treatment. The county council refused to accept the suggestion.

Meath Insurance Committee.

Some weeks ago the Meath Insurance Committee found its sanatorium fund in an insolvent condition. As a result it has been decided to discontinue the services of a whole-time tuberculosis officer, and to be content with part services. The practitioner who had been acting as tuberculosis officer is now to give part-time service at a salary of £300 a year.

Sanatorium Benefit.

A case illustrating the absurd way the sanatorium benefit under the National Insurance Act is being administered came before the Belfast guardians at their weekly meeting on July 8th. It appears that a young man, a State insured member who was on the sick list of the Rechabite Approved Society, entered the Whiteabbey Sanatorium, which is a Poor-law institution, and on an application being made for payment to this society the officials refused, as he had no dependents. The father, believing he could get the 6*s*. to which his son was entitled from the State Insurance, was prepared to pay for his sanatorium keep, but the Approved Society will not pay anything, nor will they make any provision where he is to be sent, although, curiously, the boy gets ordinary benefit as a member of the Rechabite Society. The guardians feel very strongly that in the circumstances this boy has no right to come to them as a pauper when he is insured under the State Act which promises sanatorium benefit.

Belfast Local Medical Committee.

At a meeting of medical practitioners of Belfast held on July 8th, Mr. W. McLorinan, Dr. S. W. Allworthy, and Dr. D. Gray were elected members in place of two medical men who have left Belfast and one who has resigned. The following were appointed as representatives to attend the delegates' meeting to be held in Dublin on Thursday, July 17th, for the purpose of forming a Central Medical Committee for Ireland for the ensuing year: Mr. R. J. Johnstone, Mr. T. A. Davidson, Dr. D. Gray, Mr. H. R. Irvine, Mr. W. McLorinan, Dr. W. Monypeny, and Dr. R. W. Leslie.

Queen's University of Belfast.

At the graduation ceremony held in the Ulster Hall, Belfast, on July 9th, the honorary degree of LL.D. was conferred upon the Right Hon. Christopher Palles, Lord Chief Baron of the Exchequer of Ireland, and upon Sir Donald MacAlister, Principal of Glasgow University; while the honorary degree of D.Sc. was conferred upon Sir Joseph Larmor, M.P., Sir A. W. Rücker, and Professor J. Norman Collie. In the evening the honorary graduates were entertained to dinner in the Examination Hall of the Queen's University, when their health was proposed by Sir Samuel Dill, to which Sir Donald MacAlister, Professor Collie, and Sir Joseph Larmor replied.

Belfast Hospital for Sick Children.

A sum of £300 has been paid to the treasurer of the Belfast Hospital for Sick Children, being proceeds from the Alexandra Day collection recently held in Belfast.

The Belfast Tuberculosis Scheme.

At a meeting of the public health committee of the city of Belfast held on July 10th attention was drawn to the fact that the Treasury's sanction to the tuberculosis scheme adopted by the council in May last had not yet been received, which was considered remarkable, seeing the pressure that had been brought to bear upon the council to undertake the treatment of tuberculosis and the guarantees given by the Treasury. It was decided to ask the Local Government Board what reason there is for the delay, as the Lords Commissioners of His Majesty's Treasury had given their sanction to the scheme.

Perforation in Typhoid Fever.

Dr. A. Gardner Robb, medical superintendent of Purdysburn (Belfast Municipal) Fever Hospital, reported to the public health committee of Belfast on July 10th that a recent operation done in that institution for perforation of the bowel, in the case of a patient with typhoid fever, had been successful, and that this was the third case of the kind which had occurred within about a year, all of which had been successfully treated and the patients restored to perfect health. Mr. A. B. Mitchell operated in all these cases, and it is interesting to know that these were the only cases of such a complication met with since the Purdysburn Fever Hospital has been opened, and that they were all saved by a surgical operation.

The Mater Infirmorum Hospital, Belfast.

The result of the annual street collection in Belfast on June 28th for this charity is that a sum of £1104 5*s*. has been realised, the highest total yet reached by any such effort for this hospital.

Ophthalmic Appointment.

Dr. Henry Hanna has been appointed visiting ophthalmic surgeon to the Belfast Union Hospital in succession to Mr. J. A. Craig, who has resigned on being appointed lecturer

on ophthalmology and otology at Queen's University, Belfast.

Death of Mr. J. B. Hackett.

The death occurred last week of Mr. J. Byrne Hackett, of Kilkenny, one of the best known among provincial practitioners and local politicians in Ireland. A native of county Cork, he had practised in Kilkenny for over 40 years.

July 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Prix Bouchard.

Professor Bouchard, President of the Association Française pour l'Étude du Cancer, has placed 5000 francs at the disposition of the association to be awarded to the authors of the best works on the pathogenesis of cancer. In accordance with the donor's wish the prize will be awarded at the end of 1915. Only those works will be eligible which have been presented to the association and included in its programme between Feb. 15th, 1913, and the end of July, 1915. A committee of five, with the president and general secretary, will be appointed by the association, which will report in secret session in November, 1915, on the works submitted concerning the pathogenesis of cancer in accordance with the conditions above named. If no work is adjudged worthy, the prize will be again offered in the following year. The members will vote in secret ballot on the recommendations of the committee. In case of disagreement between the association and the committee the report will be sent back to the latter, which will receive an addition of two new members, but with consultative functions only. The prize cannot be awarded to a member of the committee. It may be divided.

A Curious Case of Paralysis.

At the Société de Médecine et de Chirurgie de Bordeaux M. Davezac related the case of a man, 72 years of age, in whom immediately the crisis of an apoplectic fit causing total left hemiplegia had passed intelligence returned, but the eyes remained closed. At the time of writing the left eye was beginning to open, but the right still remained closed.

The Dangers of Brushing Clothes.

According to Dr. Chaussé's experiments, the brushing of clothes is an important source of tuberculous infection. Pieces of woollen clothing were moistened with a small quantity (0·80 gr.) of sputum containing Koch's bacillus. After drying them at laboratory temperature, M. Chaussé brushed each fragment of cloth by means of a special apparatus in a metallic box of 126 litres capacity, and containing from five to eight guinea-pigs. All the guinea-pigs became tuberculous after the brushing of infected fragments that had been dried from two to four days. With fragments that had been dried for six days three out of six guinea-pigs became tuberculous. Only after drying for 15 days did the brushing become harmless, and even then one guinea-pig became tuberculous through the brushing of a piece of infected cloth that had been dried 16 days. From these experiments Dr. Chaussé concludes that the brushing of clothes infected with dried sputum is a very dangerous procedure for the first few days. The danger diminishes with the lapse of time, but does not entirely disappear for 15 days.

Treatment of Chronic Rheumatism.

At the Société de Médecine de Paris on June 28th M. Léopold-Lévi brought forward the results of thyroid treatment in chronic rheumatism. Even in severe cases it soothes, ameliorates, and causes resolution of the rheumatic condition. The more benign the rheumatism is, the more recent, and the less deforming, the more a definite and complete cure may be hoped for. From an experience during eight years of 300 cases, the author formulates the negative, the doubtful, and the experimental results of the treatment, the cases of limited improvement, the incomplete and transitory resolutions, total resolutions, and cures.

A Memorial to the late Professor Raymond.

A monument in memory of Professor Raymond, who succeeded Charcot in the chair of nervous diseases at the Salpêtrière and held the post for 16 years, was inaugurated at the Salpêtrière on July 6th. The attendance was numerous. Professor Debove spoke on behalf of the Academy of Medicine and M. Mesureur on behalf of the Assistance Publique. Professor Claude sketched the scientific career of Professor Raymond, whose assistant he was for many years. M. Dastre and M. Landouzy spoke feelingly of their close relationship with the dead savant. Finally Dr. Florand bore testimony to the rectitude, the generosity, and the modesty which distinguished him.

A Charge of Deserting a Patient.

In March, 1911, a M. Briet, a gardener living near Bar-sur-Seine, received a knife wound in the abdomen, through which the intestines protruded. As a member of a friendly society, M. Briet sent for the club doctor, who, however, did not attend till the following day, the patient then lying in a charcoal burner's hut. The doctor applied a moist dressing and went away, but did not return. A medical colleague, summoned some days later, operated *in extremis*, but unsuccessfully, and the patient died of generalised peritonitis. His widow sued the club doctor for 10,000 francs damages and an annuity of 500 francs for each of her two children. The court condemned him to pay 1100 francs indemnity and an annuity of 75 francs for each child. On appeal it was held that it had not been scientifically demonstrated that the patient's life might have been saved, and that, deplorable as was the doctor's conduct, it was not possible to affirm that the relation of cause and effect existed between the fault committed by the doctor and the death of Briet, so that judgment could not be given against the doctor. The claim of the widow was rejected.

Preventive Medicine in Relation to Itinerant Traders and Vagrants.

The prophylactic measures applicable to pedlars have been laid down by ordinance. At the time of making their official declaration they must show that they have been vaccinated or revaccinated against small-pox. On making application for their *carnets d'identité* they must furnish a certificate of successful vaccination within ten years. On the arrival of a hawker or a vagrant in a commune the mayor has the right to investigate his state of health and that of his companions. During their stay in the commune the mayor may, if necessary, visit their caravans or camping ground to satisfy himself of their state of health and of the sanitary conditions of their dwelling. Should the medical officer find a case of transmissible disease he is to advise the mayor and the prefect of the fact. Disinfection is to be practised during the illness, and after removal, cure, or death, with destruction of infected articles. The mayor will take the necessary measures to ensure the isolation of the patient or his entry into hospital. These regulations are inscribed on a sheet attached to the *carnets d'identité*, on which the medical officer inscribes the name, sex, and age of the patient, as well as the nature of his complaint, and the mayor adds the prophylactic measures used. The use of fraudulent papers will render the offender liable to prosecution.

July 14th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

A New Theory of the Causation of Pellagra.

Professor Alessandrini and Professor Scala communicated to the Royal Academy of Medicine at Rome on May 23rd their new views on the etiology and pathogenesis of pellagra. They consider that pellagra is a disease strictly limited to districts where the water comes from a clay soil, or flows on or stands upon clay, and that it is the effect of a chronic intoxication, of which the cause is silica in colloidal solution in waters of a determined composition. They explain the mode of action in the following way. Rain-water passing over clay, which is an aluminium silicate, provokes hydrolysis, with the formation of aluminium hydrate and silicic acid. These in the colloidal state are incompatible and precipitate one another, but an excess of silicic acid remains in the water. The first effect of this solution of colloidal silica upon the organism is a retention of chloride of sodium. In producing this effect they consider

the colloidal silica to act like an enzyme, combining with the salt and then transferring it to the proteid molecule. In the new proteid compound a new reaction takes place by hydrolysis, giving rise to a proteid molecule containing an HCl group. This compound, being very unstable, splits off hydrochloric acid at once, giving rise to an acidosis, which the authors consider the immediate cause of the disease. Professor Celli, in whose institute the work for this communication was done, received the theory with sympathy, but other speakers subjected it to severe criticism. In any case, Professor Alessandrini and Professor Scala have done a careful piece of original work and have made an interesting contribution to the study of this disease.

The Unqualified Practice of Hypnotism.

At Oneglia the court has recently been occupied for two days with the discussion of a case of some professional interest. A local station-master was on trial for violation of the laws relating to medical practice in that he, having no recognised medical qualification, had treated a number of persons by magnetism and hypnotism. It was admitted that he had neither asked nor received any fees for his treatment. A number of witnesses gave personal evidence of his success in a variety of neurotic disorders, often of long standing, and no evidence was produced by the prosecution of injury suffered by any of those who had come under his treatment. The court, however, held the view that hypnotism and suggestion are capable of doing serious harm and should only be practised by medical men, and inflicted a small fine.

The Persistence of Mediæval Superstition.

An affair which occurred recently in a village not far from Florence shows how superstition lingers in the country. A certain woman of ugly features and unpleasant manners was avoided by all the country side and was reputed to be a witch. One day she had an altercation with the wife of a labourer, and during their mutual vituperation she exclaimed, "May God strike you blind!" At a later date following some illness this labourer's wife lost her sight. Her relations were firmly convinced that she had been bewitched, and one day they caught the supposed witch, brought her before the blind woman, and tried by all means to make her restore the other's sight. On her protesting that she had no power to do so she was beaten and threatened with burning alive. They went so far that fire was put under her feet so that her boots were burnt, but then her persecutors relented and allowed her to go.

Medical Statistics.

Despite such evidence of ignorance, Italy is not without a good medical service, while many practitioners hold high positions. The "Annuario Sanitario d'Italia" for 1913, recently published, gives some figures of interest. The total number of medical men in Italy is 26,000, of whom 8000 are *medici condotti* or parish doctors, and 820 are dentists. There are 28 doctors in the Senate and 37 in the Chamber of Deputies. The midwives number 14,700 and veterinary surgeons 3300. There are 190 periodicals devoted to professional and sanitary subjects.

July 8th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

Poisoning: a Trade in India.

THE Madras Chemical Examiner's reports of the cases of poisoning investigated show the carelessness with which poisons are handled and dealt with, and the cold-blooded earnestness with which the poisoner usually sets about his or her purpose. Here is a case in point. Owing to some litigation—a fruitful cause of enmity among the Indian community—a Brahmin widow sent some edible balls to her adopted son aged 6 through another boy aged 8. Naturally both the children ate the stuff, but the younger only died from arsenic poison. The woman was found guilty and sentenced to death. Her enmity, we presume, involved only the younger boy, but it was evidently a matter of small moment to her that the boy through whom she sent the balls would almost as certainly be a victim. Another noticeable point in these reports is the fact that the wandering poisoner is not yet extinct, and continues to ply his trade as he did in the days when thuggee and dacoity were rampant in the land, when railways were not in existence and the majority of the people did their travelling on foot. Such cases are not numerous nowadays owing to the improved means of travel, but we come across them every now and then in connexion with pilgrimages, temple festivals, and fairs; and in the report under review there are the details of three cases reported which bear a suspicious resemblance to cases of thug poisoning—murder apparently for the sake of murder, and with small hope of the gain to be secured by robbing their victims afterwards. Among inorganic poisons arsenic and mercury and its compounds were those most commonly used, but the list given shows that the knowledge of poisons possessed by the lower orders in India is both extensive and peculiar.

Sanitary Reform in India.

An Allahabad newspaper, commenting on the discussion in the House of Lords on Indian sanitary reforms and the policy which Government should adopt, says that there can be no question that Lord Crewe and Lord Sydenham are perfectly right in the contention that sanitary reforms are beset by great difficulties. The Secretary of State was perhaps employing language of exaggeration about a new revolution, but all who know India and the strong conservative feelings of the masses are aware that the utmost caution must be exercised in dealing with sanitary questions. This is particularly the case in rural districts, where millions of uneducated persons saturated with religious prejudices may resent any sudden interference with their daily routine of life. Sanitation by compulsion may be possible in large towns where educated Indian opinion can be enlisted on the side of the reformers, but even in these instances there is the danger of hasty action. Already there have been indications that unscrupulous seditionists may make capital out of the sanitary policy of Government by spreading alarmist stories among the Hindu masses, and hence the necessity for extreme caution about forcing the pace. The population generally must be won over, and this will be a slow process, though success should result in the long run as education spreads. If Lord Midleton had had any experience in India itself he would have been less positive in his statements, but the debate has served a good purpose in drawing a sound and practical speech from Lord Sydenham, fresh from five years of administration in Bombay. His view that no fault can be found with the subordination of the Sanitary Commissioner to the Director-General of the Indian Medical Service will be generally endorsed.

Temperance in the Indian Army.

The first report of the Indian Army Temperance Association has just been issued. The association sprang into existence on the initiative of certain retired Indian officers, 112 of whom gathered at Patiala at the opening ceremony, when an address was presented to the Commander-in-Chief. This address set forth that the object of the movement was to check the spread of drunkenness among the classes from which the Indian army is principally recruited, and that the patronage of the Maharaja of Patiala had been secured at the outset, a branch being at once formed amongst his troops. Sir O'Moore Creagh, in reply, expressed the belief that the association would do incalculable good in checking the use of intoxicating liquors and drugs, and in proof of his sympathy accepted the post of president. The report, after mentioning the evils of drink in India, particularly in the Punjab, Madras, and Rajputana, goes on to say: "It has often been stated that drunkenness is not prevalent in regiments of the Indian army, and that, therefore, a temperance association is not necessary. This is true to some extent, but it has been noticed by many who are in a position to do so that the drink habit in the country is on the increase, and therefore it is the duty of the army to see that this evil does not take a hold amongst its members and to show a good example to the civil population." Hence the appeal to all sirdars and ranks of the Indian army to coöperate. At the coronation durbar the attention of the men was gained by the formation of a camp, and Indian sports were held. The King-Emperor bestowed his patronage, and thus a good start was made. Funds were subscribed, donations given, and at the end of 1912 a substantial balance was in hand. Branches now

exist in 21 units of the Indian army and in three of the Patiala Imperial Service regiments, the total number of members being 4420. This is a good record for little more than a year's work, and it can be rightly claimed for the association that it is firmly established.

Evils of Betel Chewing.

The evils of chewing betel-nut are illustrated in the report of the South Travancore Medical Mission for 1912, which states that of 330 major operations no less than 78 were cases of cancer due largely to betel-nut chewing.

Cocaine Habit in India.

The Bombay Excise report, which has just been issued by the Bombay Government, contains several items of interest to the whole country, as well as to the Bombay Presidency. The sections dealing with the illicit imports of cocaine and the efforts being made to check these imports have a very general interest; while the question, which is fully discussed, as to whether it is more desirable that licences to retail vendors of Excise liquors should be disposed of by auction or on the fixed fee principle is of great importance to Excise authorities all over India.

Praise for Bombay Nurses.

The Hon. Mr. Crystal, at the annual meeting of the St. George's Hospital Private Nursing Association held recently in Bombay, alluded to the gradual extension of the association's work, which was entirely self-supporting, and said that the very large number of the association's old nurses now holding superior appointments all over India was a gratifying testimony to the high position which the hospital held as a school for training nurses. Colonel Collis, physician in charge of the hospital, replying to a vote of thanks, said that St. George's was a nursery of the nurses in India. As the premier hospital in India its nursing association was well equipped and up to date. Beginning with a small staff of three or four sisters it had developed under the efficient management of the association to be one of the first training schools for nurses in India; they were sending out a large number of them, no only to different parts of the country, but up to Afganistan and Persia. He urged that the difficulties which prevented their nurses being still further employed should be overcome, as their training well suited them for more extended work in India than they were able to do at present.

Vindication of the Lauder Brunton Treatment of Snake-bite.

Successful treatments of snake-bite by the Lauder Brunton method are reported from several districts in the Central Provinces, but with the exception of one case which occurred at Drug it has not been clearly established that the snakes were poisonous. In the Drug case the victim, while in his hut at the village of Bhilai, was bitten in the toe by a snake. A basket was immediately put over the snake and information was at once sent to the police-station. A constable, who happened to possess the lancet, promptly proceeded to the hut and treated the puncture in the toe in accordance with the directions which accompany the Lauder Brunton lancets. Mr. Crawford, the Deputy Commissioner of Drug, saw both the man and the snake at the district headquarters on the following day, when the snake was clearly identified as a "krait" (*Bungarus coeruleus*).

The King Edward Memorial Hospital at Lahore.

A circular just issued states that the principal of the Lahore Medical College has been authorised to make purchases of equipment for the hospital up to one lakh of rupees (nearly £7000 sterling).

June 16th.

METROPOLITAN ASYLUMS BOARD.—The Metropolitan Asylums Board, on July 12th, decided to appoint a consulting physician for skin diseases in succession to Dr. T. Colcott Fox, whose duties were confined to ringworm treatment. The duties of the new position will be to advise upon all cases of skin disease submitted by the medical superintendents, and the salary remains at £350 a year. On the recommendation of the Children's Committee the Board appointed Dr. James Galloway to the position. The Board approved plans for the extension, at a cost of £88,500, of Tooting Bec Asylum.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council of the Royal College of Surgeons on July 10th the following diplomas were conferred upon the undermentioned candidates who have complied with the by-laws of the College:—

F.R.C.S.—Philip Stanley Foster, M.B., Ch.B. New Zealand, L.R.C.P., M.R.C.S., Otago University and London Hospital; and Philip Henry Mitchener, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital.

M.R.C.S.—George Herbert Alabaster, Birmingham University; Percy Haycraft Berry, Cambridge University and Guy's Hospital; Dennison Veitch Pickering, Cambridge University and Guy's Hospital; and Trevor Owen Williams, Liverpool University.

L.D.S.—George Cowley Gell, Middlesex and Royal Dental Hospitals.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees held in Easter term the following candidates were successful:—

FIRST EXAMINATION.

Part I., Chemistry.—R. W. M. Dendy, non-collegiate; A. W. R. Don, B.A., and R. H. Emmett, Trinity; S. M. M. Jabir, Catharine; J. G. Lawn, Sidney Sussex; T. H. McCall, H. Selwyn; Y. S. Wan, St. John's; and A. Winfield, M.A., Downing.

Part II., Physics.—H. R. Bickerton, Trinity Hall; R. W. M. Dendy, non-collegiate; R. H. Emmett and H. P. D. Helm, Trinity; S. M. M. Jabir, Catharine; J. G. Lawn, Sidney Sussex; T. H. McCall, H. Selwyn; and A. Winfield, M.A., Downing.

Part III., Elementary Biology.—H. R. Bickerton, Trinity Hall; R. W. M. Dendy, non-collegiate; R. H. Emmett, Trinity; S. L. Higgs, St. John's; S. M. M. Jabir, Catharine; J. G. Lawn, Sidney Sussex; T. H. McCall, H. Selwyn; Y. S. Wan, St. John's; and A. Winfield, M.A., Downing.

SECOND EXAMINATION.

Part I., Human Anatomy and Physiology.—K. Atkin, Jesus; G. A. Back, Caius; J. J. O. Beven, B.A., Christ's; J. T. Bleasdell, B.A., H. Selwyn; A. L. Bodley, B.A., Clare; C. E. Bond, W. S. Brown, and H. C. H. Bull, Caius; E. W. Carlton-Williams, B.A., Christ's; A. E. Clark-Kennedy, Corpus Christi; D. Crawford, B.A., Trinity; L. Cunningham, Downing; I. de B. Daly and E. H. Dendy, Caius; D. D. Evans, King's; H. W. Featherstone, Trinity; E. A. Fiddian, Emmanuel; L. S. Gathergood, Sidney Sussex; A. A. Gemmell, King's; F. H. S. Greenish, B.A., Caius; H. W. Hales, B.A., Pembroke; J. R. Harris, Queens'; W. F. T. Haultain, Caius; N. S. Hewitt, Sidney Sussex; F. E. Higgins, B.A., St. John's; L. S. Holmwood, B.A., Christ's; A. G. Irving, B.A., King's; W. N. Leak, B.A., Trinity; T. D. Morgan, B.A., Jesus; M. K. Robertson, Trinity; J. C. Russell, Caius; W. G. A. Schüddekopf, Emmanuel; C. G. Schurr, Caius; G. B. Sellwood, B.A., and E. W. L. Sharp, Emmanuel; F. N. Sidebotham, Clare; B. H. Swift, Caius; W. T. Warwick, B.A., Emmanuel; B. Whitehead, B.A., Clare; and A. G. Williams, A. T. Woolward, B.A., and R. H. Yolland, B.A., Caius.

Part II. (New Regulations), Pharmacology and General Pathology.—C. G. Ainsworth, B.A., Downing; M. L. Atkinson, B.A., Emmanuel; J. Aydon, B.A., Clare; J. V. Bates, Pembroke; P. R. Boswell, B.A., Queen's; C. C. Brewis, B.A., Downing; W. H. W. Cheyne, B.A., Trinity; V. M. Coates, B.A., Caius; A. O. Courtis, B.A., Pembroke; C. S. Dodson, B.A., Queens'; B. C. Ewens, B.A., Caius; B. J. L. Fayle, B.A., Emmanuel; C. Gardiner-Hill, Pembroke; W. T. Hare, B.A., Christ's; R. Hargreaves, B.A., Caius; C. B. Hawthorne, Clare; L. G. Jacob, B.A., Christ's; A. H. Little, B.A., Corpus Christi; C. F. Mayne, B.A., and G. C. Metcalfe, B.A., Caius; S. H. Miles, B.A., Clare; B. Mountain, M.A., Sidney Sussex; E. C. W. Starling, B.A., Jesus; P. Wallice, B.A., King's; E. Watson Williams, B.A., Caius; W. L. Willett, Trinity; and A. G. P. Wills, Corpus Christi.

THIRD EXAMINATION.

Part I. (New Regulations), Surgery and Midwifery.—H. A. Bell, B.A., and E. J. Bradley, B.A., Jesus; E. J. Y. Brash, B.A., St. John's; G. M. Chapman, B.A., Caius; H. P. Dawson, B.A., Trinity; E. L. Dobson, B.A., King's; A. N. Hooper, B.A., Emmanuel; A. R. MacMullen, B.A., Caius; F. D. Marsh, B.A., Trinity; C. F. Mayne, B.A., and D. S. Page, B.A., Caius; N. S. Soden, B.A., and A. V. Stocks, B.A., St. John's; P. Stocks, B.A., and E. S. Taylor, B.A., King's; A. G. G. Thompson, B.A., and H. F. W. Warden, B.A., Pembroke; and E. Wordley, B.A., Emmanuel.

Part I. (Old Regulations), Pharmacology and General Pathology.—R. Hodson, B.A., G. O. Maw, B.A., and J. H. Newmarch, B.A., Pembroke; M. W. Paterson, B.A., St. John's; A. S. Seabrooke, B.A., Christ's; and J. Ll. M. Symms, B.A., Caius.

Part II. (New Regulations).—K. B. Aikman, B.A., Clare; E. J. Y. Brash, B.A., St. John's; G. M. Chapman, B.A., Caius; H. Y. Mansfield, B.A., and D. N. Seth-Smith, B.A., Emmanuel; W. J. F. Symons, B.A., Sidney Sussex; and E. S. Taylor, B.A., King's.

Part II. (Old Regulations), Surgery, Midwifery, and Medicine.—W. A. Anderson, B.A., Clare; M. Avent, B.A., Caius; C. G. H. Campbell, B.A., St. John's; J. D. Clarke, B.A., Sidney Sussex; H. F. Comyn, B.A., King's; H. A. Douglas, B.A., H. Selwyn; J. R. Griffith, B.A., Christ's; J. R. Heath, B.A., Trinity; A. N. Hodges, B.A., Queens'; R. Hodson, B.A., G. L. Keynes, M.A., L. R. King, B.A., and J. H. Newmarch, B.A., Pembroke; A. B. Paul, B.A., Christ's; M. N. Perrin, B.A., and W. A. Pocock, B.A., Pembroke; E. Ll. N. Rhodes, B.A., H. Selwyn; A. C. Roxburgh, B.A., Trinity; E. L. K. Sargent, B.A. St. John's; L. W. K. Scargill, M.A., Trinity Hall; R. Sherman, B.A., Caius; G. A. Smythe, B.A., V. F. Soothill, B.A., and W. A. Stokes, B.A., Emmanuel; J. Ll. M. Symms, B.A., Caius; F. J. Thorne, B.A., Jesus; J. M. Wallace, M.A., Downing; M. H. Watney, B.A., Trinity; and A. J. Waugh, B.A., Pembroke.

UNIVERSITY OF EDINBURGH.—At the graduation ceremony held on July 11th the following awards were made:—

DEGREE OF DOCTOR OF MEDICINE.

Francis Gordon Bell, Oliver Henry Blacklay, John Falconer Brown, John Brown-Lester, Leonard Horner Bryson, William Ewart Bullock, Herbert Macpherson Cargin, Walter Duncanson Chambers, Noël Anthony Coward, John Cram, James Crocket, George Herbert Dart, Somerville Boulnois Davis, Ian Dunbar Dickson, John Drummond, William Glyn Evans, John Findlay, Arthur Harcus Firth, Ronald Gray Gordon, Alexander George Grant, Satis Chandra Sen Gupta, David Kennedy Henderson, Harry Foster Holmden, Thomas Harrison Horrax, Arthur Joseph Gordon Hunter, William Douglas Kirkwood, Robert Arno Krause, William Robertson Logan, Donald Hector Colin Macarthur, Samuel Alexander M'Clintock, Frank Bedingfield Macdonald, Ranald Macdonald, George M'Mullan, John Murdo Macphail, Norman Fleetwood Mann, Benjamin Branford Morgan, Robert Ferris Mudie, Harry Grattan Guinness Nelson, John Joseph Harper Nelson, Hugh Paterson, John Henry Herbert Pearson, Alfred Alexander Webster Petrie, Kanta Prasad, Dorothy Ellen Pratt, Robert Proudfoot, George Kaffan, George Richardson, George Younger Richardson, George Henry Whiteside Robertson, George Matthew Robertson, William Alexander Shafto, John James M'Intosh Shaw, John Ingram Shepherd, Edgar Wilmot Smerdon, Henry Faithful Smith, William Ramsay Smith, Alexander Stuart, Bernard Charles Tennent, Robert Clive Walker, William Grant Waugh, George Duncan Whyte, and Frank Mayes Willcox.

DEGREE OF MASTER OF SURGERY.

Kenneth Mackenzie, Alexander Philp Mitchell, and Lancelot Edward Barrington Ward.

DEGREE OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

Ernest William Adcock, William Robert Addis, Hira Singh Anand, India; Robert Pringle Anderson, William Henry Armistead, Frederick Cecil Kyle Austin, Joshua Isadore Baëza, Tejnarain Bahadur, Israel Jacob Balkin, William Barclay, David Cuthbert Barron, Emanuel Olubomi Beckley, Alexander Bremner, Herbert Adrian Brookes, Francis Robert Brown, Robert Macfarlane Brown, Donald Campbell, M.A., Carl Petter Carlsson, Sydney M'Alpine Fraser Cesari, Tom William James Childs, Graham Wilson Christie, Thomas William Clarke, Archibald Cowe, Eric Stanley Craig, James Hastie Cumming, Laura Katharine Davies, Charles Dundee, Alfred Joseph Dunlop, James William Edington, John Stephen Elliot, Isabella Elphinston, Keith Douglas Falconer, George Douglas Ferguson, Francis Gregory Foster, Augustine Sargood Fry, John Gifford, Austin Charles Giles, Andrew Grant, James Norman Jackson Hartley, Hamilton Brown Lord Henderson, Robert Alexander Hepple, Stanley Honeyman, John Hamilton Hood, Thomas Douglas Inch, Thomas William Jackson, Ignatius James Khaw Oo Kek, Frederick John Kirkness, David Anderson Laird, Joseph Illingworth Lawson, Richard Bevan Llewellyn, Raymond Lionel Lloyd, John Bruce Low, George Harold Lunan, Robert M'Adoo, Margaret Nathaniel MacCallum, Albert Edward Peel M'Connell, Daniel M'Kelvey, William Mackenzie, Celia Mary Colquhoun MacNeil, Jean Gabriel Marie, Charles de Carteret Martin, Douglas Martin, George Ewart Martin, Robert Montgomery, William Kenneth Morrison, Hugh O'Hagan O'Neill, Wyndham Parker, Edgar Percival, Alexander Norman Pollock, David Pottinger, Thomas Pullar, George Rankine, Khammamett Gopala Rao, Jacob William van Reenen, Douglas Swan Robertson, William John Robertson, Cecil Dermot Rogers, Henry Albert von Ronn, Malcolm Stuart Ross, Cuthbert Scales, Loris Rhoan Sharples, Peter M'Laren Shiels, Andrew Fulton Sinclair, Richard Wayland Smith, Edward Thomas Arnold Stedeford, James William Steel, Isabella Stenhouse, Archibald Mathison Stewart, Francis Geoffrey Thatcher, William St. Clair Thwaites, Hira Lal Tikku, Maurice Calman Turiansky, Joseph Walker, Hubert Oscar Washbourn, David Galloway Watson, Gomer Williams, George Wilson, and Harold William Wilson.

Diploma in Tropical Medicine and Hygiene.—Alexander Dron Stewart.

Diploma in Psychiatry.—Percy William Page Bedford, William Russell, and Leslie Henderson Skene.

The degree of Doctor of Science was conferred upon Dr. Robert Arno Krause, and the following awards of fellowships, scholarships, medals, and prizes, were made:—Thesis Gold Medallists: Oliver Henry Blacklay, William Ewart Bullock, Alexander Philip Mitchell, George Matthew Robertson and George Duncan Whyte. Goodsir Memorial Fellowship: Francis Gordon Bell. Ellis Prize in Physiology: William Ewart Bullock. Gunning Victoria Jubilee Prize in Physiology: Marjory Macnaughton. Milner Fothergill Gold Medal in Therapeutics: John Gordon Sharp. Chiene Medal in Surgery: Lancelot Edward Barrington-Ward. Ettles Scholarship: James Norman Jackson Hartley. Allan Fellowship in Clinical Medicine and Clinical Surgery: Ernest William Adcock. Freeland Barbour Fellowship: Thomas Douglas Inch. M'Cosh Graduate's and Medical Bursaries: David Cuthbert Barron. Murchison Memorial Scholarship in Clinical Medicine: Alan William Stuart Sichel. Beaney Prize in Anatomy and Surgery: James William Edington. Mouat Scholarship in the Practice of Physic: Douglas Martin. Conan Doyle Prize: Jacob William van Reenen. Annandale Gold Medal in Clinical Surgery: James Norman Jackson Hartley. Buchanan Scholarship in Gynæcology: James Norman Jackson Hartley. James Scott Scholarship in Midwifery: Thomas Pullar. Dorothy Gilfillan Memorial Prize: Isabella Stenhouse. Wellcome Medals in the History of Medicine: Gold medal, Thomas Pullar; Silver medal, Karl Frederick Sonntag. Pattison Prize in Clinical Surgery: John Mitchell Watt. Cunningham Memorial Medal in Anatomy: John Lewis Owen. Whiteside Bruce Bursary: Robert Mailer.

QUEEN'S UNIVERSITY OF BELFAST.—At examinations held recently the following candidates were successful in the subjects indicated:—

FIRST MEDICAL EXAMINATION.

Chemistry.—Jane Copes, Gerard John Crawford, William Gilmore, William Graham, Stanley Maclure Kirk, Daniel Joseph Loughran, John Egerton Rea, Samuel James Smyth, Maud C. Welsh, and Francis Purcell Woods.

Physics.—James Coburn Carson, Gerard John Crawford, Robert Hall, Olga Roberta Irene Love, Daniel Joseph Loughran, Samuel M'Kee, Rupert Gribbon Meyer, Annie Martin Orr, Samuel James Smyth, and Francis Purcell Woods.

Zoology.—John F. Ainley, David Douglas Anderson, Olive Margery Anderson, Annie Elizabeth Evelyn Beattie, Thomas Moffatt Boyd, Janie Clarke, John Workman Coates Colquhoun, Jane Copes, Gerard John Crawford, Margaret Crawford, William Cupples, Dorothy Isobel Dobbin, John Fegan, John W. Gaston, William Gilmore, Charles Graham, William Graham, Fred Hopkins, Thomas Frederick Ingram, Denis Liddell Ireland, John Lascelles, Samuel Lees, Olga Roberta Irene Love, Daniel Joseph Loughran, John Carson Loughridge, Joseph M'Cormack, Samuel M'Kee, Alexander M'Donald M'Mullan, Peter Macarthur, Rupert Gribbon Meyer, Joseph Patrick O'Kane, Hugh John O'Prey, John Egerton Rea, Samuel James Smyth, Martin Harper Turnbull, Maud C. Welsh, Henry William Wild, and Cecil John Alexander Woodside.

Botany.—John F. Ainley, David Douglas Anderson, Olive Margery Anderson, Annie Elizabeth Evelyn Beattie, Janie Clarke, John Workman Coates Colquhoun, Jane Copes, Gerard John Crawford, Margaret Crawford, William Cupples, Dorothy Isobel Dobbin, John Fegan, John W. Gaston, William Gilmore, Charles Graham, William Graham, Robert Hall, Fred Hopkins, Denis Liddell Ireland, John Lascelles, Samuel Lees, Olga Roberta Irene Love, Daniel Joseph Loughran, John Carson Loughridge, Hugh H. M'Clelland, Joseph M'Cormack, Alexander M'Donald M'Mullan, Patrick Joseph Murnane, Joseph Patrick O'Kane, Hugh John O'Prey, Annie Martin Orr, Samuel James Smyth, Martin Harper Turnbull, Henry William Wild, and Cecil John Alexander Woodside.

SECOND MEDICAL EXAMINATION.

Anatomy.—William L. Agnew, William Bryars, Alfred G. Campbell, George Chesney, Alfred C. Dickey, Samuel J. W. Donald, Grace M. English, Hugh E. Hall, Bryson J. H. Hogg, Louis Jefferson, Arabella C. Kirker, Nathaniel M'Cullough, Joseph P. M'Ginley, Bernard W. M'Kinney, Michael M'Menamin, Frederick M'Sorley, Patrick J. M'Sorley, Hugh E. Magee, John J. Marner, David Mitchell, Elizabeth M. Moore, Henry T. O'Neill, Margaret S. Purce, Robert J. Rea, William Saunderson, Robert L. Sinclair, Joseph P. Smyth, Mary G. Thompson, Thomas R. S. Thompson, John H. Vance, Donald R. Wheeler, Charles A. Whitfield, and Frederic H. Whyte.

Physiology.—William L. Agnew, William Bryars, Alfred G. Campbell, George Chesney, *Alfred C. Dickey, Samuel J. W. Donald, Grace M. English, Bryson J. H. Hogg, Arabella C. Kirker, Nathaniel M'Cullough, *Joseph P. M'Ginley, Bernard W. M'Kinney, Michael M'Menamin, Frederick M'Sorley, Patrick J. M'Sorley, *Hugh E. Magee, John J. Marner, David Mitchell, Elizabeth M. Moore, Margaret S. Purce, Robert J. Rea, William Saunderson, Robert L. Sinclair, Joseph P. Smyth, *Mary G. Thompson, Thomas R. S. Thompson, John H. Vance, Donald R. Wheeler, *Charles A. Whitfield, and Frederic H. Whyte.

* Recommended for scholarships.

THIRD MEDICAL EXAMINATION.

Materia Medica and Pathology.—John Bradbury Alexander, Edwin George Bleakley Calvert, William Kealty Campbell, Robert Condy, William Walter Dickson, Thomas William Edward Elliott, Mary Alice Gallagher, Thomas M'Clurkin, Walter Tennyson M'Curry, Robert Gerald M'Elney, Thomas Milling, Abraham Porter, Robert Lindsay Rea, Frederick Alexander Ethelbert Silcock, William Archibald Thompson, Elizabeth Stephenson Walker, Robert Fowler Walker, and Robert Henry Wilson.

Hygiene and Medical Jurisprudence.—John Bradbury Alexander, Albert William Bourke, Edwin George Bleakley Calvert, Patrick Clarke, David Maxwell Clements, John Cullenan, Charles Frederick Davey, Thomas William Edward Elliott, Mary Alice Gallagher, Patrick Kane, Thomas M'Clurkin, William Cardwell M'Cullough, Walter Tennyson M'Curry, Robert Gerald M'Elney, James M'Kay, Hugh M'Nally, Joseph Randolph Morell Mackenzie, Sylvia Marsh, John F. Meenan, Thomas Milling, Frank Percival Montgomery, William Noël Montgomery, Abraham Porter, Robert Lindsay Rea, William Russell, Frederick Alexander Ethelbert Silcock, Herbert Sydney Smith, James Millar Smith, William Archibald Thompson, Elizabeth Stephenson Walker, Denis Kevin Watterson, and Robert Henry Wilson.

M.B., B.CH., B.A.O. DEGREES.

*Nathaniel Beattie, James Stuart Bellas, David Calwell, John French Craig, *William Anketell Leeper Dunlop, Herbert Emerson, Henry Potter Hall, *Thomas William Gerald Hogg, Herbert Montgomery Jackson, Gordon Dill Latimer, John Beattie Lyle, William James M'Cracken, William M'Kim Herbert M'Cullagh, John James Harrison Mitchell, Joseph Porter, Hugh Andrews Skillen, William Speedy, William Tyrrell, *Thomas Walker, Thomas Henry Wilson, and Samuel John Yeates.

* Second-class honours.

M.D. DEGREE (*by Thesis*).

George Cooper, Joseph G. Johnston, and George E. A. Mitchell.

M.CH. DEGREE (*by Thesis*).

Andrew Fullerton.

DIPLOMA IN PUBLIC HEALTH.

William Kirkwood Calwell, Frederick William Craig, Thomas Fleming-Stevenson Fulton, David George Gray, Richard M'Candless, William Brooke Purdon, James Jackson Robb, Walter Bernard Stevenson, Robert Stewart Taggart, and Eustace Thorp.

UNIVERSITY OF BRISTOL.—At the Second Examination for the Degrees of M.B., Ch.B. held in July the following were successful:—

Herbert Archer and Oliver Charles Minty Davis.

FOREIGN UNIVERSITY INTELLIGENCE.—*Algiers:* Dr. Gillot has been appointed Professeur Agrégé of General Medicine.—*Basle:* Dr. Rudolph Massini has been recognised as *privat-docent* of Medicine.—*Berlin:* Dr. Richard Weissenberg has been recognised as *privat-docent* of Anatomy.—*Bordeaux:* Dr. L. P. Mauriac, Dr. P. E. Micheleau, Dr. Leuret, and Dr. Dupérié have been appointed Professeurs Agrégés of General Medicine.—*Cologne* (*Academy of Practical Medicine*): Dr. Albert Dietrich, prosector of the Charlottenburg Hospital, has been appointed to the chair of Pathological Anatomy, in succession to Dr. Jores, who is migrating to Marburg.—*Hamburg:* Dr. Kissling and Dr. Hegler have been appointed Senior Physicians to the General Hospital.—*Heidelberg:* Dr. Georg Hirschel has been granted the title of Extraordinary Professor.—*Lille:* Dr. Pierret and Dr. Leclercq have been appointed Professeurs Agrégés of General Medicine.—*Lyons:* Dr. Froment, Dr. Lucien Thévenot, and Dr. Piéry have been appointed Professeurs Agrégés of General Medicine.—*Montpellier:* Dr. Rimbaud and Dr. Roger have been appointed Professeurs Agrégés of General Medicine.—*Nancy:* Dr. J. V. J. Parisot has been appointed Professeur Agrégé of General Medicine.—*Paris:* Dr. Maurice Villaret, Dr. Tanon, Dr. Ribierre, Dr. Lemierre, and Dr. Lerebcullet have been appointed Professeurs Agrégés of General Medicine.—*Prague* (*German University*): Dr. Pelrina, extraordinary professor of medicine, Dr. Schenkl, extraordinary professor of ophthalmology, and Dr. Weil, extraordinary professor of surgery, are retiring at the conclusion of the current session.—*Rennes:* Dr. Damany, professor of hygiene and forensic medicine, has been appointed Professor of Clinical Medicine, in succession to Dr. Bertheux, retired.—*Toulouse:* Dr. Lafforgue, Dr. Sorel, and Dr. Serr have been appointed Professeurs Agrégés of General Medicine.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.—The fifth annual conference of this association will be held at the Central Hall, Westminster, S.W., on August 4th and 5th next. On Monday, August 4th, at 11.30 A.M., the opening address will be delivered by the Prime Minister (the Right Hon. H. H. Asquith, M.P.). The morning and afternoon sessions will be devoted to the subject of Tuberculin Treatment. After a general survey by Dr. H. W. G. Mackenzie, papers will be read by Professor G. Sims Woodhead (Cambridge), Professor Dr. Lydia Rabinowitsch-Kempner (Berlin), Professor Béraneck (Neuchâtel), Professor Sahli (Berne), Dr. Nathan Raw (Liverpool), Professor Wm. Charles White (Pittsburg), Professor Petruschky (Danzig), Sir James Kingston Fowler, Sir StClair Thomson, and Dr. W. Halliday Sutherland (London), Professor J. G. Adami (Montreal), Sir R. W. Philip (Edinburgh), Dr. Noel D. Bardswell (Midhurst), Dr. Clive Rivière, Dr. von Unterberger (St. Petersburg), Dr. Rist (Paris), Dr. Rollier (Leysin), Dr. Amrein and Dr. Morland (Arosa), and others. In the evening will be held the annual meeting of the association and a conversazione, at which Dr. Rollier will give a cinematograph demonstration on the Cure of Surgical Tuberculosis by Direct Sunlight. On Tuesday, August 5th, there will be a public discussion, open to all delegates, on the Need for the Coördination of Antituberculosis Measures, to be opened at 10.30 A.M. by Sir R. W. Philip. The following have promised to take part: Mr. Arthur Neal (England), Professor J. G. Adami (Canada), Dr. Hermann Biggs and Professor Wm. Charles White (United States), Professor Dr. Pannwitz (Germany), Dr. Rist (France), Professor Saugmann (Denmark), Professor Tamburini and Professor Signorelli (Italy), and Dr. von Unterberger (Russia). At 4 P.M. Dr. A. C. Inman (superintendent of laboratories, Brompton Hospital) will give a demonstration on the Preparation and Properties of Tuberculin. Dr. J. J. Perkins, the honorary secretary, will be glad to send a card of admission, programme, and voucher for reduced railway fare to any medical practitioner who makes application to him at 20, Hanover-square, London, W.

EXETER CITY ASYLUM.—The committee of this asylum in its twenty-sixth annual report to the Exeter city council states that during the past 12 months there has been a profit of £1794 on the working of the institution, and this sum has been paid to the local borough fund.

NORTHERN NURSING AND MIDWIFERY CONFERENCE.—A Nursing and Midwifery Conference and Exhibition will be held at Glasgow in February next, with the object of bringing together matrons, nurses, midwives, and health workers residing in Scotland and the North of England.

PRESENTATION TO A MEDICAL PRACTITIONER.—The members of the Axminster (Devon) Voluntary Aid Detachment recently made a presentation to Mr. John Nevill B. Vise, L.R.C.P. Lond., M.R.C.S. Eng., who is shortly going to Australia, in appreciation of his services as honorary instructor.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the above society was held on Wednesday, July 9th, Sir Thomas Boor Crosby, the President, being in the chair. Fourteen directors were present. The deaths of Mr. A. Willett (vice-president) and Mr. L. Archer (director) were reported. Two gentlemen were elected members of the society. £1333 were voted for the payment of the half-yearly grants to the widows and orphans on the books of the society. Since the last court three widows had died. One whose husband had paid in subscriptions £26 5*s.* had been on the funds since 1885, and had received from the society £1540. The acting treasurer reported that the total amount received from the estate of the late Mr. James Brickwell was £37,250, bringing in a yearly income of £1325 10*s.* A scheme for utilising this was submitted to the court, and was adjourned to the October court for further discussion. A legacy of £250 had also been received from the executors of the late Mr. Windsor, of Manchester. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is two guineas. Special terms for life-membership, varying with the age of the applicant. Full particulars may be obtained from the Secretary, at the offices of the society, 11, Chandos-street, Cavendish-square, W. Relief is only granted to the widows or orphans of deceased members, and the secretary is constantly receiving letters from widows of medical men who have been left practically penniless, asking for relief, but this has to be refused as their husbands had not been members of the society.

LONDON HOSPITAL MEDICAL COLLEGE AND DENTAL SCHOOL.—The Rev. Canon J. Howard B. Masterman, a member of the College Board of the London Hospital, on July 14th distributed the following prizes to the students of the Medical College and Dental School:—Price scholarship in science, £100, R. G. Simpson. Price scholarship in anatomy and physiology, £52 10*s.*, W. D. Newcomb and A. C. Ainslie. Entrance science scholarship, £50, V. J. F. Lack. Buxton scholarship in arts, £30, H. L. Douglas and S. E. Harvey. Epsom scholarship, S. H. de G. Pritchard. Clinical medicine prize, £20, not awarded. Clinical surgery prize, £20, Mr. P. Roux. Clinical obstetric prize, £20, R. J. M. Love and J. Deighton; hon. certificates, H. G. Oliver and J. Bostock. Duckworth Nelson prize, £10, D. E. Morley. Letheby prizes, organic chemistry, £10, M. Shimberg; hon. certificate, D. G. Norris. Inorganic Chemistry, £15, R. D. Aylward; hon. certificate, G. Adler. Sutton scholarship, £20, J. Bostock; hon. certificate, M. J. Cronin. Anatomy and physiology prize, £25, A. H. Morley and H. W. L. Molesworth; hon. certificate, H. Collins. Dressers' prizes: Elementary clinical surgery: £10 prizes, A. G. Winter and S. Batchelor; £5 prizes, L. M. Ingle, W. D. Newcomb, C. P. Allingham, and P. C. P. Cloake; hon. certificates, W. B. Purchase and T. T. B. Watson. Minor Surgery, £9, H. G. Broadbridge; £5 prizes, F. K. Marriott and M. Shimberg; £2 10*s.* prizes, V. J. F. Lack and A. B. Dummere. Anderson prizes: £3 prizes, R. G. Michelmore and P. C. P. Cloake; £1 10*s.* prizes, A. J. V. McDonnell and A. P. Saint; hon. certificates, J. McDonnell

and C. G. T. Mosse. Practical anatomy prizes: £6, L. G. Jacob and C. A. Hutchinson; £4, R. K. Ford and V. Feldman. Douro Hoare prize, £5, R. G. Simpson. Douro Hoare prize for dental students, £5, A. G. Harsant. Wynne Baxter prize, M. J. Cronin.

ASSOCIATION FOR THE ORAL INSTRUCTION OF THE DEAF AND DUMB, FITZROY-SQUARE.—The annual meeting of this association will be held at the Portman Rooms, Baker-street, London, W., on Tuesday, July 22nd, at 3.30 P.M., when a short illustration of the system will be given. Captain H. M. Jessel, M.P., will preside.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Frank Hartley, professor of clinical surgery in the Columbia College of Physicians and Surgeons, New York.—Dr. P. Gérente, formerly senator for Algiers.—Dr. Manuel Piñeiro, professor of medical pathology in the University of Santiago, Spain.

DEVONSHIRE CENTENARIANS.—Mrs. Ann Brown, of Moretonhampstead, celebrated the 100th anniversary of her birthday on July 6th, and received a congratulatory message from the King.—Miss Lemon died at Ilfracombe on June 29th. She was born at Clifton (Gloucestershire), and had she lived until August 19th would have been 103 years of age.

IT may be well to remind members of the International Congress of Medicine that the dinner of the Section of Medicine will be held at the Connaught Rooms, Great Queen-street, Kingsway, W.C., on Friday, August 8th, at 7.15 P.M. precisely. Tickets, price 25*s.* (including wine and cigars), may be obtained from Mr. George Bethell, 11, Chandos-street, Cavendish-square, W., up to August 5th, and after that date at the Central Bureau, Albert Hall.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Sir Victor Horsley and the Home Secretary.

THE correspondence of the Home Office with the Royal College of Surgeons of England and Sir VICTOR HORSLEY with regard to the case of Miss Lilian Lenton is published as a Parliamentary white paper.

The National Insurance Act (Amendment) Bill.

The House of Commons on Tuesday, July 15th, agreed to the second reading of the National Insurance Act (Amendment) Bill. The discussion was not entirely confined to a consideration of the details of the Bill, but certain wider aspects of the National Insurance Act were debated. For instance, medical benefit in its administrative as apart from its financial side, excessive sickness, and the solvency of Approved Societies came up for review, and Mr. MASTERMAN, who is the Minister most closely associated with the National Insurance Commission, in the course of his speech, foreshadowed the appointment of a committee to examine the question of malingering, the granting of medical certificates (which, it was alleged, were too freely given in some parts of the country), and other matters.

Mr. LLOYD GEORGE (Chancellor of the Exchequer) formally moved the second reading of the Bill.

Mr. H. W. FORSTER, speaking from the Front Opposition Bench, expressed the opinion that the Bill did not cover all the matters which required amendment. It contained some useful proposals dealing with minor matters, important in themselves, but it really touched only the fringe of the problem as a whole. As to medical benefit, he thought there were weighty reasons for extending the scheme under the existing Act. There was no doubt that the Act originally contemplated the provision of medical benefit broadly and generally on the panel system, but it had been also contemplated that persons who desired it should have free choice of medical men. Now that the panel system had been established throughout the country, surely there was an opportunity to allow people who desired it to make their arrangements outside that system. There was undoubtedly a very strong and genuine desire on the part of a great number of persons to go outside the panel system. There was the Scottish Clerks' Society—a case that was perfectly well known to the Government. In his judgment, it has a distinct grievance against the Chancellor of the Exchequer and the Government for the treatment it had received. Its members were willing to pay increased contributions in order that they might avoid calling in panel doctors, but should have a free choice of their own. When the Government found people willing to submit to levies on their own account, to secure medical men of their free choice, why on earth could they not be allowed to do it? He hoped it was not too late to put into the Bill provisions to allow committees with the consent of the Insurance Commissioners to allow people in such circumstances to make their own free choice. The report of the Insurance Commissioners showed what a gigantic task they had had to accomplish. No one would deny the extraordinary courage shown by the Commissioners to overcome every obstacle. Reading it, he was more than ever surprised at the scanty proposals of the Government Amending Bill. There were several passages in the report which filled him with alarm. Several societies were told that they were overspending. Many lives were now brought into the societies practically without any medical examination at all. That offered food for the very gravest reflection because the whole financial foundation on which the National Insurance Act rested depended upon actuarial calculations, which were derived from the experience of picked lives, who in nearly every case had passed a more or less stringent medical examination. He read in the report about the excessive sickness claims. Some of them were attributed to malingering, but there was something more than malingering. Excessive sickness claims arose, partly from the fact that there had been admitted into the societies increased risk and bad lives. In some societies the sickness claims had increased by 30 and 40, and even up to 70 per cent. The whole fabric of the present scheme of finance rested upon the actuarial calculations which were derived from the statistics of voluntary system of insurance. This alteration threatened the stability of the whole structure. The original cost of £4,000,000 to the State had already increased to nearly £7,000,000, and now Parliament could not leave out of account the increased liabilities placed upon the societies. A valuation would not take place for three years, but in the meantime this problem of solvency would increase and at the end of three years the state of things might be so unsatisfactory as to bring ruin to the Friendly Societies themselves. He admitted that this state of things had not been foreseen, and he was profoundly disappointed that the Government had shown no disposition to grapple with the larger difficulties.

Mr. MASTERMAN (Secretary to the Treasury) said that all the criticism of the honourable Member was directed to problems outside this Bill. When it was realised what the nature of the attack upon the Insurance Commissioners during the first five or six months of their existence had been, the tribute to their good work which had come from the Front Opposition Bench was to be particularly noted. The criticisms that had been made by the honourable gentleman related (1) to medical benefit, and (2) to Approved Societies and the problem of excessive sickness. As to the extension of medical benefit he would say that any amendment put down by the honourable gentleman would have most serious consideration by the Government. But he would point out that it was the duty of the Insurance Committees to arrange for medical benefit for all persons insured within their areas. The panel system was now in existence, and in every case where contracting-out had been demanded the doctors who wished to have patients contracted-out wished to choose selected lives, and at the same time to obtain the same remuneration as doctors who were working under the panel system. If the Insurance Committees allowed five doctors out of ten in a district to choose all the good lives and to leave all the bad lives to the other five, and yet to divide the money equally, that was obviously unfair.

Mr. H. W. FORSTER: My point is not the doctor's point of view. I am looking at it from the point of view of the insured person. If the insured person wants a doctor who is not on the panel the Act gives him the right to obtain him if the doctor is willing.

Mr. MASTERMAN: If an insured person A says that he wants a doctor, and thereby prevents insured person B getting any doctor, he has no right to do it. The right honourable gentleman went on to say that the British Medical Association had conducted an agitation against the panel system and in favour of contracting out. However, he pointed out that there were many systems now established in South Wales whereby miners and other workers wished for doctors who would take on men, women, and children for a certain fee, but the doctors who were anxious to promote contracting out where the system was not in existence were anxious to stop it in these districts where it was asked for. The British Medical Association was in rather a dilemma on this point. Surely the sensible thing was for every doctor to go on the panel—let it even be for 20 patients. Let them put an end to the distinction between the doctor who was on the panel and the doctor who was not. Every Insurance Committee which he knew was anxious to welcome doctors on the panel, and he would strongly submit to the honourable gentleman and his friends that they should endeavour to get a system with no doctors fighting the panel system. On the question of excessive sickness claims, it was grotesque to imagine that in six months' working of the Act any reliable statistics could be obtained. Certain statements were made relating to certain districts and certain societies that the sickness demands had gone up in comparison with last year, but in the case of six or seven societies, all representative in their way, where an examination had been made, it had been found that the sickness had not gone up to the amount allowed in the actuarial calculations. Such facts should be put before the House before honourable Members accused the Government of being indifferent to rather vague statements about excessive sickness. It was the case that there had

been an excess of sickness in the last three months, with the result that the line of sickness, which usually fell rapidly from March to October, had not fallen so rapidly this year. Further, there was to a certain extent a number of persons drawing sick pay under the Act who had no right to sick pay. Curiously enough, that seemed to have occurred in Lancashire, which had had no experience of contract practice, and which had been the centre of resistance to the Act. He could only hope that so far as sickness benefit depended upon doctors' carelessness in giving certificates, or giving certificates deliberately because they wanted to oppose the Act, the great influence of the medical profession as a whole would be exercised to prevent that kind of thing being done. If there was one thing which would get the medical profession into disrepute it would be the finding out by the Friendly Societies that such certificates were being given out.

Sir HENRY CRAIK: Have you any ground for saying that?

Mr. MASTERMAN: I don't speak without grounds. If you will speak with some of the leaders of the Friendly Societies whom I have spoken with I don't think you will deny what I say. If the honourable gentleman will consult the Committee set up in Manchester—doctors and insured persons in equal representation—to prevent this sort of thing going on, I do not think he would say that sort of thing. He went on to refer to Clause 72 of the National Insurance Act, and to state that under the present system a certain number of persons had been able to get more when they were ill than when they were well. That meant a considerable pressure on the Sickness Fund. He thought that it would be better to appoint a committee on which there were representatives of the doctors and the societies with two other persons, and let them examine these charges, malingering, the charges made against doctors which it was desirable should be removed if there was anything in them, as to the too easily giving of certificates, as to the case of men who earned 16*s.* a week being able to get 23*s.* when they were ill, and also the increased sickness amongst women. He did not think that they could do anything at present by legislation, but a report would do good. Referring to the case of the deposit contributors, he said that the liability for the bad lives had been automatically distributed over all the insured persons. An honourable Member, when the National Insurance Act was passing through Parliament, had suggested that the deposit contributors would number 3 millions, but that prophecy was entirely the reverse of what had taken place. There were only half a million. The overwhelming number of the deposit contributors were lives in every respect as good as the lives of the ordinary Friendly Society members. The last thing that made a man a deposit contributor apparently was the fact that he was ill or a bad life. Some of them became deposit contributors from ignorance of the Act. Many of them became deposit contributors because they wanted to spite the Government, and many of them trusted their money in the Post Office because they thought it was safer there. On the inspectors going round to deposit contributors more than half of them were freely taken by Approved Societies. Two societies had, in fact, made an offer to take over the deposit contributors *en bloc* and make a profit on them. What had become of the pictures of despair which had been put forward by the Opposition?

Private Members on both sides of the House, including Mr. WORTHINGTON-EVANS, Sir HENRY CRAIK, and Dr. ADDISON, developed various matters in connexion with the National Insurance Act.

Sir HENRY CRAIK expressed surprise at the charges which the Secretary to the Treasury had brought in connexion with the giving of medical certificates in Lancashire without submitting evidence. The National Insurance Act could only be worked with the counsel and help of the medical profession, and that help would not be encouraged by bringing forward charges of this kind.

Mr. HUNT moved an amendment to the effect "That a Special Commission of a thoroughly representative character, to consider the scheme of National Insurance with a view to its material amendment as may be found necessary, shall at once be appointed and until such Commission's report no attempt shall be made to amend the Act."

Mr. BONAR LAW declared that the Bill was a commentary on the way in which the Government had forced the National Insurance Act through Parliament two years ago. The Bill was merely tinkering with the matter without really dealing with the problem which the Government had to face. The measure would impose an expenditure of nearly a million a year, but was it not merely designed to get over the immediate difficulties without reference to a survey of the whole problem? He had no belief that this Bill would make the National Insurance Act workable and acceptable to the people of this country. The Act was not getting more popular the longer it continued in force. Experience showed that the defects were fundamental in the Act, and could not be removed by the tinkering of the Bill. There ought to be an inquiry into the working of the Act by impartial investigators, on the ground of the continued hostility to it in the country. The present excessive rate of sickness, if it continued, would break down the financial stability of the Friendly Societies, and that alone was a reason for an inquiry into the principles on which the Act was based. Until such an examination had been made it would be impossible to pass such an amending Act as this with any idea of finality.

Mr. LLOYD GEORGE, in winding up the debate, said that it was necessary they should have experience of the Act before there was an inquiry instituted. They had not had that experience yet. The unpopularity of the National Insurance Act was decreasing. The only question which was ready for inquiry was that of excessive sickness, and the Government were prepared to have that. A suggestion was made that the separate Commissions for Scotland, Wales, and Ireland should be abolished, but he could not assent to that as they had very materially contributed to the successful management of the Act. Many difficulties had been surmounted and many forebodings had been falsified. There were 14,000,000 persons insured under the Act. The number of medical men who had gone on the panels was 18,000. Every week 500,000 persons received medical benefit and 270,000 sick pay. There were 10,000 persons in sanatoriums. He expressed the belief that the unpopularity of the Act was diminishing.

The amendment was negatived without a division, and the Bill was read a second time.

A motion to deal with it in Committee of the whole House was rejected by 284 votes to 160. It will accordingly be considered by one of the Standing Committees.

The Mental Deficiency Bill.

The Mental Deficiency Bill has passed the Standing Committee of the House of Commons, which was charged with its consideration, and has been ordered to be reported to the House.

Public Health (Prevention and Treatment of Disease) Bill.

Mr. BURNS, President of the Local Government Board, has introduced in the House of Commons a Bill "to amend the law relating to public health as respects the treatment and prevention of disease." It has been read a first time.

HOUSE OF COMMONS.

WEDNESDAY, JULY 9TH.

Research under the National Insurance Act.

Mr. CHANCELLOR asked the Chancellor of the Exchequer whether, in view of the public feeling against vivisection, he could give an assurance that experiments on living animals should not be allowed to form part of any scheme of research to be financed by the moneys provided for research under the National Insurance Act.—Mr. LLOYD GEORGE replied: All research work that may be undertaken under the auspices of the Medical Research Committee under the National Insurance Act will be carried out precisely under the same restrictions that obtain under the Act of 1876 and the regulations of the Home Office thereunder in other cases of research work.

Mr. LEE: Will the right honourable gentleman see that nothing is done to hamper the useful labours of this committee?—Mr. LLOYD GEORGE: I think that is all-important.

Norwich Friendly Societies Medical Institute.

Mr. G. ROBERTS asked the Secretary to the Treasury whether he was aware that, although at the end of the first quarter the payment for benefits under the National Insurance Act of £676 18*s.* 3*d.* was due to the Norwich Friendly Societies Medical Institute for medical treatment and drugs, it was not till the beginning of May that £370 was paid on account, and that though another quarter was ended nothing further had been paid; whether the Local Insurance Committee was thus acting on instructions from the Health Insurance Commissioners; and whether any action was contemplated to prevent a recurrence of delay so that medical institutes might be treated in the same manner as doctors and chemists under the Act.—Mr. MASTERMAN answered: I am informed by the Norwich Insurance Committee that an advance payment of £370 was made to the institute on May 2nd on an undertaking given by the trustees for the due application of the money, although the rules of the institute had not at the time been approved by the Commissioners or by the Registrar of Friendly Societies. The Committee have offered to make a further advance and, acting on the instructions of the Commissioners, are prepared to do so on a liberal basis; but inasmuch as they are only empowered by the Act to make a contribution towards the expenditure incurred by the institution on the medical attendance and treatment of insured persons, they must be satisfied that such expenditure has in fact been incurred. I am not aware that there has been any avoidable delay on the part of the Committee. I may, perhaps, add that an agreement is being arrived at between the Commissioners and the representatives of approved institutions as to the basis on which contributions towards their expenditure may be properly made by Insurance Committees.

Resident Medical Superintendent at Peamount Sanatorium.

Sir JOHN LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that in the appointment of a resident medical superintendent for Peamount sanatorium it had been decided that no candidate for the post would be considered who was not a Roman Catholic; and if the determination to conduct this institution, which had been provided out of public funds, upon sectarian lines had the sanction of the Local Government Board.—Mr. BIRRELL replied: The answer to both paragraphs of the question is in the negative.

THURSDAY, JULY 10TH.

Prevention of Rabies.

Mr. LOUGH asked the President of the Board of Agriculture whether he would consider the possibility of abolishing or materially shortening the period of quarantine at present enforced against dogs coming into this country; whether the regulations applied to toy and other pet dogs; whether any cases of rabies had been detected in any dog during the period of quarantine within the last two years, and, if so, how many; and whether he could state the average expense of the system by which the regulations were carried out to the owner of the dog.—Mr. RUNCIMAN answered: The period of quarantine prescribed for dogs imported into this country was fixed after careful observation and scientific study and cannot safely be reduced. The regulations apply to all kinds of dogs. No cases of rabies have occurred during the period of quarantine within the last two years. The cost of the quarantine is a matter for arrangement between the owner and the veterinary surgeon and varies according to the size of the dog and other circumstances. The Board have no information from which the average cost could be computed.

Disabled Members of Approved Societies.

Mr. F. WHYTE asked the Secretary to the Treasury whether it would be possible, under the National Insurance Act (1911) Amendment Bill, for disabled members of Approved Societies, principally those of advanced age, who could not become insured persons owing to disablement, receipt of sick pay, and other causes on July 12th, 1912, to obtain medical benefit by means of the same payments as those made by ordinary insured persons even where their societies did not provide medical benefit prior to the passing of the National Insurance Act.—Mr. MASTERMAN replied:—Clause 1 (2) of the amending Bill is designed to enable the agreement between the doctors and the Friendly Societies to be carried out whereby those members who could not become insured persons owing to age and disablement should be able to obtain the medical attendance and treatment to which they had hitherto been entitled, and is necessarily limited to that object.

Approved Societies and Sickness Benefits.

Mr. STEWART asked the Secretary to the Treasury whether it was with the sanction of the Insurance Commissioners that certain Approved Societies paid nothing to voluntary hospitals towards the maintenance of their members without dependents; and was it within the power of Approved Societies to retain the sickness benefit for themselves and thus turn the sufferer into a source of income without doing anything for him.—Mr. MASTERMAN said in reply: The Insurance Commissioners have no power to compel Approved Societies to make payments to hospitals. Societies have in certain circumstances discretion to retain the benefit in their own hands, but the Commissioners have issued a circular which sets out the various ways in which the money can be expended (including payments to hospitals), and adds that societies are bound to exercise their discretion reasonably and that the Commissioners do not suppose that they will find many occasions on which the benefit could properly be withheld altogether.

MONDAY, JULY 14TH.

The Payments to Panel Practitioners.

Mr. F. HALL (Dulwich) asked the Secretary to the Treasury whether uniform arrangements were prescribed by the Insurance Commissioners for the method and time of payment to doctors working under the National Insurance Act; whether he was aware that as regards Derbyshire the panel doctors had not yet received the whole of the amount due to them under the Act in respect of the first quarter of the year, the reason assigned being that all the patients were not yet allocated; whether he could state the total number of insured persons in Derbyshire, and the proportion of them which had been assigned to approved doctors; and whether steps could be taken to ensure more prompt payment of the amounts due to medical men in the area referred to.—Mr. MASTERMAN replied: The honourable Member is under a misapprehension in thinking that a payment of a previously ascertainable amount is due at the end of each quarter of the calendar year to each doctor on the panel. The Regulations provide that the Insurance Committee shall make payments in advance at the end of each quarter of such amounts as may be agreed for this purpose between it and the doctors on the panel, but the precise amount actually due to any particular doctor can only be finally determined when all the various factors in the year's working have been ascertained and allowed for. Of course, no doctor will receive any payment in respect of any quarter during which he was not on the panel. The answer to the second part of the question is in the negative, and to the third part 20,000 out of 172,000.

The Supply of Drugs to Insured Persons.

Mr. H. TERRELL asked the Secretary to the Treasury whether an insured person who was attended in sickness by a doctor not on the panel was entitled to receive free medicine.—Mr. MASTERMAN replied: No, sir. It is impossible to require chemists on the panel whose remuneration is based on a capitation system, and accordingly limited to the sum available, to supply medicine to an unlimited extent on the prescriptions of medical men who have not, like those on the panel, a collective responsibility with regard to the arrangements made for medical benefit in the area.

Sight Tests in the Mercantile Marine.

Dr. CHAPPLE asked the Parliamentary Secretary to the Board of Trade to state what number of men rejected locally for colour-blindness by the Board of Trade had been passed on appeal, and what test was used for this purpose.—Mr. J. M. ROBERTSON answered: During the three months April 1st to June 30th 15 men who failed to pass the local colour vision examinations were reported by the special examiners as having passed, and 29 as having failed on appeal. The tests ordinarily used in the special examinations include a lantern test, various spectroscopic tests, a test with Nagel's anomaloscope, and any other tests which the special examiners see fit to adopt.

WEDNESDAY, JULY 16TH.

Phthisis amongst Cornish Miners.

Mr. OUTHWAITE asked the President of the Local Government Board whether he would secure reports from the medical officers of health of those districts in Cornwall to which miners returned after employment in the mines of the Witwatersrand, with regard to the prevalence of phthisis amongst those men.—Mr. BURNS replied: I quite agree that it is important to obtain information on this question, and I am about to communicate with the authorities concerned. The county council of Cornwall have appointed a tuberculosis officer and are actively engaged in providing a system of dispensaries, sanatoria, and hospitals for the county for dealing with persons suffering from tuberculosis.

CASE OF MISS LILIAN LENTON.

CORRESPONDENCE of the HOME OFFICE with the ROYAL COLLEGE OF SURGEONS and SIR VICTOR HORSLEY with regard to the case of LILIAN LENTON.[1]

I.—CORRESPONDENCE OF THE HOME OFFICE WITH THE ROYAL COLLEGE OF SURGEONS.

The HOME OFFICE to the ROYAL COLLEGE OF SURGEONS.

Home Office, 5th May, 1913.

SIR,—I am directed by the Secretary of State to inform you that he thinks it right to bring to the notice of the Royal College of Surgeons certain public statements which have been made by two Fellows of the College, Sir Victor Horsley, F.R.C.S., and Mr. C. Mansell Moullin, F.R.C.S., which reflect very seriously, and in Mr. McKenna's opinion very unjustly, upon the professional conduct and skill of the two Deputy Medical Officers of H.M. Prison, Holloway, Mr. Francis Edward Forward, F.R.C.S., and Mr. Allan C. Pearson, B.A., M.B., B.C. (Cantab.), M.R.C.S.

I enclose a memorandum prepared by the Prison Commissioners, a perusal of which will place you fully in possession of all the facts of the case. With the facts thus before them the Secretary of State leaves the matter in the hands of the Royal College of Surgeons. He desires only to add that Mr. Forward and Dr. Pearson have always performed their duties as medical officers with skill and care, and with all possible kindness to the prisoners under their charge.—I am, &c.,

EDWARD TROUP.

Sir Rickman John Godlee, Bart, F.R.C.S., President of the Royal College of Surgeons.

MEMORANDUM by the PRISON COMMISSIONERS.

On Thursday the 20th February last a young woman who gave the name of Lilian Lenton was charged, together with another woman, before the Justices sitting at Richmond with setting fire to a building in Kew Gardens, and was committed to Holloway Prison on remand for a week. The prisoner from the time of her reception refused both to be medically examined in the usual course, as prescribed by Prison Rules, and to take food, and she persisted in this refusal until Sunday the 23rd of February when, in the opinion of the medical staff, it became necessary to administer food compulsorily. In resorting to this measure the medical men were only performing their duties as prison officers, it having been laid down by the Lord Chief Justice in the case Leigh *v.* Gladstone as follows:—

("Times" Law Reports, 1909–10, Vol. 26, page 142.)

"The Lord Chief Justice said he should rule as a matter of law that it was the duty of the prison officials to preserve the health of the prisoners and *a fortiori* to preserve their lives, and that he should ask the jury whether the means adopted were proper for this purpose."

The manner in which the food was administered and its nature are described in the first paragraph of the report of Dr. Pearson, dated 27th February (No. 1 of the documents herewith enclosed).

Some three hours afterwards the prisoner complained of feeling ill, and was found by Mr. Forward and Dr. Pearson to be in the state of collapse described in the second paragraph of that report. Such being the prisoner's condition, the medical officers deemed it necessary to communicate with the Home Office, and recommended the prisoner's immediate release. This course was authorised, and she was conveyed to the residence of some relatives or friends in Camden Town, Dr. Pearson and a female officer accompanying her.

On the 27th of February and the 3rd of March Mr. Mansell Moullin addressed to the Secretary of State the two letters which, in original, are enclosed (Paper No. 2). On the terms in which those letters are couched it is not necessary to comment. The letters were in the usual official course referred to the medical staff of the prison for report, and their reports, dated the 5th of March, will be found in Papers Nos. 3 and 4. No answer was sent to either letter. The Secretary of State was quite satisfied with the medical officers' denial of Mr. Mansell Moullin's allegation, and if the matter had rested there no further action would have appeared to be called for. It did not, however, rest there. In the "Times" of the 18th of March appeared a letter (copy enclosed, Paper No. 5) over the signatures of Dr. Agnes Savill, Mr. Mansell Moullin, and Sir Victor Horsley, which contains injurious and public statements concerning the medical officers of the prison.

The letter, in addition to giving an inaccurate account of the way in which the prisoner was fed, states that the facts of the case "are that during forcible feeding executed by the prison doctors on the Sunday morning food was poured into her lungs; that the Home Secretary's attempted denial that Miss Lenton was nearly killed by the forcible feeding is worthless; that the plain facts of Miss Lenton's case prove clearly that the food which was forcibly injected into her lung set up a pleuro-pneumonic condition which, but for her youth and good healthy physique, would have ended more seriously."

On the day that this letter appeared, the 18th of March, a debate took place in the House of Commons on the "Release of Suffragist Prisoners" ("Times" report enclosed, Paper No. 6) in which various references were made to the letter now in question, and the Secretary of State read the replies above mentioned (Papers Nos. 3 and 4) of the prison medical officers to the charges made against them by Mr. Mansell Moullin and Sir Victor Horsley, together with a report on the subject made by Dr. Smalley, H.M. Medical Inspector of Prisons, after full inquiry at the prison (Paper No. 7). It will be observed:—

(1) That these gentlemen contradict in precise and categorical terms the statements made in the letter of Mr. Mansell Moullin and Sir Victor Horsley as quoted above, as well as other injurious allegations contained in it, and that their denial has been supported by the medical man whom Miss Lenton's friends called in on her discharge;

(2) That by the nature of the case neither Mr. Mansell Moullin nor Sir Victor Horsley was present when the prisoner was fed; and

(3) That, as appears by their own statement in a letter addressed to the "Manchester Guardian" and the "Pall Mall Gazette" of the 1st instant (copy from "Pall Mall Gazette" enclosed, Paper No. 8), Mr. Mansell Moullin and Sir Victor Horsley based their allegation that food had been forced into Miss Lenton's lung solely upon her own statement.

It appears, therefore, that in writing their letter to the "Times," Mr. Mansell Moullin and Sir Victor Horsley based their grave reflections upon two members of their own profession entirely upon Miss Lenton's statement, and that, notwithstanding the public contradiction of that statement, not only has neither gentleman made any sort of apology or withdrawal, public or private, to the doctors they have attacked, but they have repeated their allegations in the letter to the "Pall Mall Gazette" mentioned above.

Mr. Mansell Moullin has not confined his strictures on the treatment of prisoners who refuse food to the case of Miss Lenton. In the "Suffragette" newspaper of the 18th ultimo appears a report by him concerning the condition of a Miss Zelie Emerson who also persisted in refusing food, and who was discharged from Holloway Prison on the 8th of April. This letter and copy of a medical report made on the 1st of April are also enclosed (Papers 9 and 10). It will be seen that on

[1] Ordered by the House of Commons to be printed, July 8th, 1913. London: Published by His Majesty's Stationery Office. Price 2½*d*.

that date the prisoner's condition was satisfactory, and the daily reports, till her discharge on the 8th of April, show that it did not deteriorate in the interval. Her discharge was not rendered necessary by the state of her health.

Mr. Forward and Dr. Pearson feel greatly aggrieved that they should have been thus publicly attacked by Mr. Mansell Moullin and Sir Victor Horsley, both Fellows of the College to which they themselves belong. 2nd May, 1913.

PAPERS enclosed with the PRISON COMMISSIONERS' MEMORANDUM.

Paper No. 1.

REPORT by Mr. PEARSON, Deputy Medical Officer of Holloway Prison.

It became necessary to feed this remand prisoner on Sunday morning after abstinence from food for three days. She had refused to be medically examined, but such examination was made as was possible in a struggling woman, and nothing was found to contra-indicate forcible feeding. She was accordingly fed at about 11 A.M. by nasal tube with peptonised milk without any difficulty in the passing of the tube or distress to the patient, although there was violent struggling.

Nothing was observed of an abnormal character until 1.45 P.M., when she complained of feeling ill. Dr. Forward and I were called in and found her in a collapsed condition. We were now able to examine her and came to the conclusion that her life was in imminent danger. She still persisted in her refusal to take anything; and her state was now such that it was impossible to administer food or medicine forcibly. In these circumstances we had no course open but to recommend her instant release. ALLAN C. PEARSON, M.B., M.R.C.S.
27th February, 1913.

Paper No. 2.

MR. MANSELL MOULLIN to the SECRETARY OF STATE.

69, Wimpole-street, W., 27th February, 1913.

DEAR SIR,—You are reported to have said in the House of Commons that there was no instance in which physical injury had been inflicted on a prisoner as the result of forcible feeding.

I presume you had not seen the report drawn up by Sir Victor Horsley, Dr. Agnes Savill, and myself, published in the "Lancet" and the "British Medical Journal."

As there is now another case (which may yet prove fatal) in which it is certain that food was forced into the lungs by the prison officials, instead of into the stomach, may I ask you, as a gentleman and a member of H.M.'s Government, to retract that statement and to give your retraction the same publicity that you gave your original statement.

Should you desire to study the report to which I have alluded, the conclusions of which have never been contradicted in any way, I shall be happy to forward you a copy. I am, &c.,
Right Hon. R. McKenna, M.P. C. MANSELL MOULLIN.

69, Wimpole-street, W., 3rd March, 1913.

DEAR SIR,—As you have not yet replied to my former letter, may I call your attention to a misleading and very inaccurate statement purporting to have been issued from the Home Office?

It has been stated by one of the secretaries that Miss Lenton's illness was caused by abstinence from food. This is, of course, a mistake. Even the most ignorant of secretaries must know that such an illness could not be caused in that way.

It is due to food having been forced into her lung (as we warned you it would be) by the manipulation of the prison officials. How this could have been allowed to happen, you will, of course, inquire.

I am afraid that this statement is likely, unless it is contradicted by you, to be characterised in society, in your constituency, in the press, and on public platforms, by a term which I cannot use.

We will make every endeavour to give you an opportunity of contradicting it in the House, but as Parliament does not sit for a few days, you may like to do so at once. Fortunately Miss Lenton's statement, which bears the stamp of truth, had several days' start. This will make your correction all the more easy.
I am, &c.,
The Right Hon. R. McKenna, M.P. C. MANSELL MOULLIN.

Paper No. 3.

REPORT by Mr. FORWARD, Deputy Medical Officer of Holloway Prison.

With reference to the allegations contained in the correspondence forwarded for my perusal by the Commissioners respecting the above-named prisoner, I beg to report as follows:—

She was received here on remand on February 21st, 1913. I saw her shortly after reception, when she refused to be medically examined and declined to give any information about her previous health. She was of rather spare physique, and struck me as not being a particularly strong-looking woman, but I was unable to ascertain anything further about her on account of her refusal of an examination. She adopted the hunger strike tactics from the commencement, and, consequently, on February 23rd I considered it advisable to artificially feed her as she was presenting symptoms of malnutrition. She was examined both by Dr. Pearson and myself before the commencement of the feeding, though under great difficulties, as she resisted violently. She was fed by nasal *tube which passed easily.* During the process there was no *cough—stridor—or dyspnœa* (difficulty in breathing), and *there were no indications of any food having passed into the larynx as alleged.* She rested for a little while after the feeding and appeared quite comfortable. About three hours later she asked the officer to let her go to the lavatory. About 10 minutes after her return she complained of a pain in the left side and she then allowed me to examine her. I ascertained that she had been subject to attacks of pain in this region and shortness of breath on exertion for the last 12 months, but apparently she had not received medical advice about it. On examination I found slight dulness in the lower part of the left axillary region, and some doubtful friction sounds. The cardiac action was rapid, but I could detect no organic disease. The pain in the side was increased on taking a deep breath. I came to the conclusion that she was suffering from pleurisy, which may have been present before, judging from her history, and which had become subacute again. Considering the facts that she would take no nourishment or medicines, that she had been without food for two days, and that her life would be endangered under such circumstances, and it was quite impossible to artificially feed her again, the only alternative was to report the facts to the Home Office. There was nothing to suggest in the case that her condition was due to food entering the lungs, and this is borne out, I understand, by her own medical attendant, under whose care she has been since, and who reported that she was now convalescent.

FRANCIS E. FORWARD, F.R.C.S.
5th March, 1913.

Paper No. 4.

REPORT by Mr. PEARSON, Deputy Medical Officer of Holloway Prison.

On instructions being given for this woman's release, I accompanied her in the taxicab with a hospital officer to her home. I assisted in carrying her to her room, and told the friends I would like to hand over the case to some doctor who lived in the neighbourhood. They refused to take my advice, and decided to wait for Dr. Frances Ede. After finding the patient was comfortably in bed I left, giving instructions that the medical attendant whom they called should be told that the patient was, as far as I could tell, suffering from pleurisy, and that the symptoms began about 2 P.M.

On hearing that Dr. —— was attending the case, I called on him the following day to discuss the case, and he has kept me informed of the progress of the patient up to yesterday, when he reported her as convalescent.

Dr. —— has agreed throughout with Dr. Forward and me that her symptoms could in no way be attributable to the presence of food in the lungs. There have been no indications of bronchitis or pneumonia, which would have undoubtedly been present had such been the case.

We are all agreed that the patient has had an attack of pleurisy, to which she was probably predisposed, judging from her previous history.
ALLAN C. PEARSON, M.B., M.R.C.S.
5th March, 1913.

Paper No. 5.

LETTER of Dr. AGNES SAVILL, Mr. MANSELL MOULLIN, and Sir VICTOR HORSLEY, published in the "Times" of 18th March, 1913.

The Case of Miss Lenton.

To the Editor of the "Times."

SIR,—The Home Secretary recently issued a formal statement in regard to the sudden release of Miss Lenton that she "was reported by the Medical Officer at Holloway Prison on Sunday, February 23, in a state of collapse and in imminent danger of death consequent upon her refusal to take food. Three courses were open:—1. To leave her to die. 2. To attempt to feed her forcibly, which the medical officer advised would probably entail death in her exhausted condition. 3. To release her on her undertaking to surrender herself for the further hearing of her case. The Home Secretary adopted the last course."

From these expressions employed in this letter the public were completely misled as to the true facts of the case. She was certainly "in imminent danger of death" on that Sunday afternoon, but this was not due to her two days' fast, but to the fact that during forcible feeding executed by the prison doctors on the Sunday morning, food was poured into her lungs.

The statement issued from the Home Office, quoted above, was not only contrary to the facts, but was also constructively misleading, in that it made no mention whatever of the prisoner having been forcibly fed.

In consequence of the real facts becoming generally known, Mr. Remnant, on March 13, asked the Home Secretary whether "during an attempt to feed the suffragist prisoner, Miss Lenton, the tube used was introduced into the trachea, thereby causing some of the liquid food to pass into the lung; whether Miss Lenton was thereupon released from prison, it being the opinion of the medical officer in charge that her life was in danger; and whether the doctor who examined her on her release found that pleurisy was present together with lung mischief."

To this question Mr. McKenna said "there was no foundation for the statement which has been made that the tube entered the trachea or that any food passed into the lung. Miss Lenton's collapse occurred some hours after she was fed and was due to the bad state of her health aggravated by her refusal of food." Mr. McKenna admitted that he knew her own doctor had found her to be suffering from pleurisy.

The facts of this case are as follows, and to any unprejudiced medical practitioner prove that the Home Secretary's attempted denial that Miss Lenton was nearly killed by the forcible feeding is worthless.

In the first place, Miss Lenton was seen in prison on Saturday afternoon, February 22, 1913, by her solicitor, Mr. Marshall, who reports that on that day he saw her officially on a matter connected with her impending trial. He found her then absolutely normal, in good spirits, and making light of her two days' fast. Yet on the following afternoon she was "in imminent danger of death," as admitted by the Home Office, and the only cause of which could be the forcible feeding inflicted upon her that morning.

On Sunday morning, February 23, 1913, Miss Lenton was forcibly fed in Holloway Prison by Dr. Forward and another doctor and seven wardresses. She was tied into a chair and her head dragged backward across the back of the chair by her hair, the usual prison method of "restraining" these prisoners. The tube was forced through the nose twice. No food could be got through it the first time and after the second introduction when the food was poured in it caused violent choking, the breathing became very violent and noisy, so that the doctor told her to breathe more quietly. The noise of the rattling was so loud that she actually was afraid it would alarm her fellow prisoner. Breathing was almost impossible, and she coughed violently and continuously, so, though the food was poured in twice, it came back at once and out of the mouth. When the tube was removed she fell against the wall and continued to cough, then great pain began, extending from the waist upwards and in the front of the chest, and the rattling noise in breathing persisted.

Three wardresses remained in the cell, and Miss Lenton was put on a mattress and pillow laid on the floor.

The pain became intense. The doctor was fetched. He examined her chest and warned her not to set up. He ordered hot bottles and blankets, gave her bovril and brandy and two hypodermic injections. He then left and returned with the governor, who said she should be released at once. The doctor then gave her another hypodermic injection (presumably for stimulation), saying it was necessary to enable her to stand the journey.

She was carried in a chair to a taxi, and the prison doctor himself, with a wardress, took her to the house of a friend of hers. There they gave her more "stimulation" treatment and carried her upstairs. The prison doctor said a local doctor must be fetched at once. This

was done. That night her temperature was above 102 degrees, and she was gravely ill. Her own doctor found pleurisy (pleuro-pneumonia) at the base of the left lung and slighter symptoms in the right. He certified that her condition was serious until all complications had cleared up. Under his care she has slowly recovered, and is now convalescing.

These plain facts of Miss Lenton's case prove clearly that the food which was forcibly injected into her lung set up a pleuro-pneumonic condition which, but for her youth and good healthy physique, would have ended more seriously.

That the prison doctor and the governor recognised immediately what they had done is also obvious. They hurriedly and at the further risk of injury to the patient immediately removed her from the prison, so that at least she should not die there and thus compromise the Home Office and our horrible prison administration, of which they were the instruments.

Precisely similar maltreatment of a suffragist prisoner occurred at Winton Green Prison, Birmingham, on June 24, 1912 (*see* our report on forcible feeding, "British Medical Journal," August 31, 1912). In that case also the food was injected into the lung [2] and caused forthwith the same alarming symptoms and agonising pain in the chest. In that case also the patient was hurriedly thrust into a cab and sent with fever and pleurisy to a private house. Fortunately she too was young and strong, and gradually recovered after a convalescence at the seaside.

Yours faithfully,

AGNES SAVILL, M.D.
CHAS. MANSELL MOULLIN, F.R.C.S.
March 16. VICTOR HORSLEY, F.R.S.

Paper No. 6.

"TIMES" REPORT of DEBATE in HOUSE OF COMMONS on 18th March 1913, on RELEASE OF SUFFRAGIST PRISONERS.

(Not printed. *See* Extracts from the "Parliamentary Debates.")

Paper No. 7.

REPORT by Dr. HERBERT SMALLEY, H.M. Medical Inspector of Prisons.

The statement that the condition was due to food being forced into the prisoner's lungs is not true. Her collapsed condition was primarily due to wilful abstinence from food. This in a person physically not robust and who subsequently gave a history of pain in the left side of the chest, with shortness of breath on exertion, for a period of some 12 months, would be more likely to cause cardiac failure to occur sooner than in a person in robust health and without the above history.

She was not tied into a chair, but a sheet was thrown round her body and she was restrained by officers. Her head was not dragged across the back of the chair by her hair. This is not the usual method of restraining these prisoners. They are restrained by female officers and, if the resistance is very great and violent, by an attendant controlling each limb—*i.e.*, four officers. Another officer holds the head by placing the hands on each side of the patient's head, and a sixth officer would be in charge of the food.

The tube was not forced through the nose twice, but passed only once and that without difficulty, the tube passing to the usual distance. The interior of the mouth was examined before food was administered, to ascertain whether there was any coiling of the tube. Both of the doctors in attendance are perfectly certain that the tube was not passed into the air passage.

There was no choking. There was no difficulty of breathing nor noisy respiration. Neither doctor told her to breathe more quietly. There was no noisy rattling. There was no coughing at the time of feeding. About half a pint of nourishment was given.

It is not true that the food was passed in twice and it came back at once and out of the mouth. About an ounce was regurgitated at the conclusion of the feeding and the tube was withdrawn at once.

She did not fall against the wall but was assisted to lie down on her mattress. There was no rattling, but quite quiet breathing.

No pain was complained of, or other complaint made for three hours after, when she asked to go to the lavatory. She walked across the hall without showing any indication of illness. Five minutes after her return to her cell she rang her bell and said she felt faint and the doctor was summoned.

She was not removed from the prison until 6 o'clock, when, having voluntarily taken some warm nourishment, she was considered to be fit to be moved to the care of her friends.

The fact that she is now stated to be convalescing in itself negatives that food was forced into the lungs.

H.S.
18th March, 1913.

Paper No. 8.

LETTER of Mr. MANSELL MOULLIN and Sir VICTOR HORSLEY, published in the "Pall Mall Gazette," 1st May, 1913.

Forcible Feeding.

SIR,—On March 16, with Dr. Agnes Savill, who is absent on holiday, we reported on the case of Miss Lenton, who was hurriedly released in a condition of "imminent death" (Mr. McKenna's words) from Holloway Prison within three hours of the first attempt made by the prison doctors to forcibly feed her.

Her critical condition was due, as we showed, to some of the liquid having been forcibly injected into the lungs.

Three public statements have been made about this case by Mr. McKenna, to the third of which we now desire to reply, having made in the meanwhile a thorough reinvestigation of the facts.

The first statement by Mr. McKenna was a written statement issued by him from the Home Office admitting her urgent release in a most dangerous state, but concealing the fact that she had been forcibly fed.

The second was a verbal statement in the House of Commons denying that her dangerous state was due to the now admitted forcible feeding.

The third consisted of a speech in the House of Commons on March 18, 1913. On this occasion Mr. McKenna said:—

(1) That our account on March 16 of Miss Lenton's forcible feeding was "remote from the truth," and "nothing except hearsay, misunderstanding, and prejudice." (Hansard 891-892.)

(2) That "the patient's own doctor agreed with our (*i.e.*, the prison doctors."[3]

Both these statements, being contrary to the facts, completely deceived the House of Commons. Since the debate we have reinvestigated the case, particularly in view of McKenna's assertions regarding the doctors in the case, whether prison or private.

(1) As regards our statements *our original report consisted of Miss Lenton's own statement*, and has been fully confirmed in every detail *by her*. We therefore await Mr. McKenna's withdrawal of the string of abusive epithets which in the House of Commons he applied to our report and are quoted above.

(2) "The patient's own doctor" has *written a full statement to us*[4] denying that he "agreed with the prison doctors" as alleged by Mr. McKenna in the House of Commons.

When Mr. McKenna has withdrawn this second misstatement, which doubtless served its purpose in the House of Commons, what is left?

Three medical reports which he also read to the House.

Of these, two are by the prison officers who executed forcible feeding and are responsible for the misadventure which so nearly ended in a tragedy.

These reports in no wise explain medically how the prisoner came to be suddenly in danger of imminent death, and omit all reference to the important particulars contained in *Miss Lenton's account*, which is an accurate medical picture of the urgent symptoms caused by fluid passing into the lung.

Had her condition been, as they suggest, only one of simple pleurisy[5] the prisoner would have been removed to the prison infirmary, in the ordinary way, and not given three hypodermic stimulating injections, wrapped in hot blankets and hurriedly conveyed away in a motor by one of the prison doctors and a wardress to a private house to avoid an obvious scandal. The simple recital of the case and of their conduct refutes every line of their reports.

Finally, a third report was also read by Mr. McKenna to the House of Commons and purporting to be a denial of Miss Lenton's statement as given by us.

The author of this third report is anonymous, like Mr. McKenna's other medical authorities on this subject.[6]

Where he got his version of the facts from does not appear, and there is nothing to suggest that he was present during the infliction of the forcible feeding. His report, which is nothing but a blank denial of every point of medical significance, is therefore worthless as a contribution to the facts or truth of this case.

In conclusion, and while waiting for Mr. McKenna's withdrawal of his statements to the House of Commons, we desire to point out that the most obvious comment on the brutality of his forcible feeding is the fact that he now feels obliged to introduce legislation (in itself ridiculous) to avoid resorting to what has been falsely called medical treatment, and which he has often said is neither painful nor dangerous.

Yours faithfully,

CHARLES MANSELL MOULLIN.
28th April. VICTOR HORSLEY.

Paper No. 9.

REPORT by Mr. MANSELL MOULLIN, published in the "Suffragette," 18th April, 1913.

Miss Emerson's serious state.

Medical Report.

The following report has been issued by Dr. Mansell Moullin with regard to Miss Emerson, whom he is attending:—

69, Wimpole-street, W.

Miss Emerson was taken to a nursing home on Tuesday (8th) at 9.30 P.M.

It was obvious at first glance that she had lost weight to a serious extent. She was cold, almost in a state of collapse, not quite collected in what she said, and evidently on the verge of a complete breakdown. Sleep was almost impossible and constantly broken by horrible dreams of what she had gone through.

The nose was bruised and sore; the throat congested and the voice hoarse. The temperature was below normal; the pulse small and weak, and the heart's action feeble. Owing to neglect in prison her digestive system was thoroughly out of order, and there is still reason to fear a grave complication.

10th April, 1913. (Signed) C. MANSELL MOULLIN.

Miss Emerson is still too ill and exhausted to allow of her giving a personal account of her sufferings in Holloway.

Paper No. 10.

REPORT of Mr. FORWARD, Deputy Medical Officer of Holloway Prison.

Zelie Emerson.

I beg to report that the above-named prisoner was admitted to hospital on 3rd March, 1913, as she was suspected of being surreptitiously on the hunger-strike, owing to her loss of weight. It was found that she had lost 9 lbs. since her reception, and, as she refused to take any food, it was considered advisable to artificially feed her, which has been done twice daily ever since. Since artificial feeding was adopted she has maintained her strength and weight very well, and she now weighs 135 lbs., which is the same as on her admission to hospital. I consider at the present time her general condition is satisfactory. She sleeps well, is a good colour, pulse-rate normal, and her mental condition causes no anxiety. Especially the last few days she has been much brighter, and at the present time is giving us very little trouble in feeding her.

1st April, 1913. FRANCIS E. FORWARD, F.R.C.S.

[2] The Prison Commissioners report that no case occurred at Birmingham Prison which answers in any way to this description.

[3] This quotation is incomplete. The actual words are given in the report, where it will be seen that, after answering an interruption, the Home Secretary said "the doctor who has attended her . . . agreed that *there was no indication that the illness was due to the presence of food in the lungs.*"

[4] This is the statement which Sir Victor Horsley refuses to produce. (*See* his letters.)

[5] Her collapsed condition was primarily due to wilful abstinence from food (*see* Dr. Smalley's report). The reason for releasing her promptly was that she persistently refused to take food in prison, and food was in her condition necessary to preserve life.

[6] All the reports are signed. The official designations of the officers who made them were stated in the House of Commons.

The ROYAL COLLEGE OF SURGEONS to the HOME OFFICE.

Lincoln's Inn Fields, London, W.C., 13th June, 1913.

SIR,—With reference to your letter of the 5th ultimo, No. 234788/18, calling the attention of the College, by direction of the Secretary of State, to certain public statements by two Fellows of the College with regard to the professional conduct and skill of two Deputy Medical Officers of H.M. Prison, Holloway, I am directed to communicate to you, for the information of the Secretary of State, the following reply adopted by the Council of the College at a meeting held yesterday:—

> The statements and documents referring to the case of Lilian Lenton, submitted to the President by the Secretary of State, are in many respects in direct conflict. The Council would point out that they have no authority to compel the attendance of witnesses, and have not the power to hold such a judicial inquiry as would be necessary in order to enable them to decide the points at issue. They are, therefore, unable to enter upon the ethical questions involved, and are not in a position to determine whether anything has occurred calling for action on their part.

I am, &c.,

S. FORREST COWELL, Secretary.

The Under Secretary of State, Home Office.

II.—CORRESPONDENCE OF THE HOME OFFICE WITH SIR VICTOR HORSLEY.

(1) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, W., 1st May, 1913.

SIR,—On March 18th, 1913, you attacked me by name in the House of Commons, where I, of course, could not answer you, in respect of Mr. Moullin's and my report on the case of Miss Lenton, the prisoner who was nearly killed by forcible feeding executed by your authority.

With my colleague I have reinvestigated the case, and our further report is published in letter form in the "Manchester Guardian" (copy enclosed[7]) and other papers. The grave errors of fact contained in your House of Commons speech are fully dealt with in our letter, and I must now ask you to publicly withdraw the attack you made upon my veracity in Parliament.

Yours faithfully,

VICTOR HORSLEY.

(2) The SECRETARY OF STATE to Sir VICTOR HORSLEY.

Home Office, Whitehall, S.W., 2nd May, 1913.

DEAR SIR,—I am desired by the Home Secretary to acknowledge the receipt of your letter enclosing a copy of a further letter which appeared yesterday in the "Manchester Guardian" signed by Mr. Moullin and yourself on the subject of the prison treatment of Miss Lenton.

After reading the letter from the "Manchester Guardian" Mr. McKenna is unable to see in what way it affects the statement he made in the House of Commons on the 18th March, except in one point. In his speech the Home Secretary said that the patient's own doctor agreed with the prison doctors that there was no indication that the illness was due to the presence of food in the lungs. You now say that the doctor in question has written a statement denying that he "agreed with the prison doctors." Do you mean by this that the doctor asserts that the illness was due to food in the lungs? If so, Mr. McKenna would be obliged if you would let him see the written statement to which you refer. If the doctor does not make this assertion, then what the Home Secretary said in the House of Commons stands without any qualification.

Yours faithfully,

S. W. HARRIS.

(3) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, 4th May, 1913.

SIR,—On the 1st instant I wrote to you enclosing you a further report by Mr. Moullin and myself on the case of Miss Lenton, and I called upon you to withdraw the baseless attack you made (on March 18th to Parliament) upon my veracity in describing (on March 16th) the forcible feeding to which she was subjected by you.

You stated to the House of Commons that that description was "remote from the truth" and "nothing except hearsay, misunderstanding, and prejudice." You went further and insinuated (Hansard, col. 890) that we had had no communication with Miss Lenton, and therefore no credibility attached to our statements.

In our second report (the letter to the "Manchester Guardian"), which you now acknowledge having read, we prove that your statements were wholly contrary to fact.

We further proved two points: first, that our account of the forcible feeding was supplied us by Miss Lenton on more than one occasion, and that it was true in every particular; second, that your statement respecting her private doctor was not correct. As regards the first of these points, you say now you are "unable to see how our letter in the 'Manchester Guardian' affects the statement (you) made in the House of Commons."

Permit me to point out to you that paragraphs 2 and 4 of our letter directly prove your attack on our veracity to be as baseless as your insinuation was unworthy.

As regards your query respecting the second point, Miss Lenton's private doctor wrote to us as follows on 27th March, 1913:—

> "It is absolutely absurd in my opinion for the prison doctors to state that I agree with them in considering the forcible feeding had nothing to do with Miss Lenton's condition.[8] I believe it had.

This second point is, however, but a further instance of the incorrectness of your statements to the House of Commons, and I shall be glad to hear that you will publicly withdraw the imputations you made upon my veracity and in a place where, as you were well aware, I could have no opportunity of stating to your hearers the real facts.

Yours faithfully,

VICTOR HORSLEY.

(4) The SECRETARY OF STATE to Sir VICTOR HORSLEY.

Home Office, Whitehall, S.W., 5th May, 1913.

DEAR SIR,—The Home Secretary desires me to say, in reply to your letter of yesterday, that your representation of what he said in his speech in the House of Commons is so misleading that he almost doubts if you can have read the report of the speech. He said that you were not the doctor attending Miss Lenton, and that you were not speaking on the authority of her doctor when you asserted that her illness was due to the injection of milk into the lungs. It is clear from your own letters that you are not in a position to contradict either of these statements.

He stated that the patient's doctor had agreed that "her symptoms could in no way be attributed to the presence of food in her lungs." Your quotation from the doctor's letter in no way contradicts this statement, which was made by the doctor in question to one of the prison medical officers.

Mr. McKenna adheres to his speech, and is content to leave it to the judgment of any impartial reader.

Yours faithfully,

S. W. HARRIS.

(5) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, W., 8th May, 1913.

SIR,—In your letter of the 5th instant you assert that I have misrepresented what you said in the House of Commons.

As I quoted in inverted commas your actual words from Hansard and also the number of the column, your assertion is without meaning, so also is your further suggestion that you doubt if I "have read the report of the speech."

You then raise two points from your speech which, as they are only creations of your imagination and have nothing to do with me or my letter of the 1st instant, are irrelevant to the present issue.

Finally, you suggest that the statement made to me by Miss Lenton's doctor, and which I forwarded to you at your request, is not in contradiction of a statement you say he made to the prison doctors, and you place in inverted commas. Miss Lenton's doctor in his letter to me denies having made such a statement as that you attribute to him.

I must repeat my request of the 1st instant that you will publicly withdraw the attack you made upon me in Parliament, where, as you are well aware, I had no opportunity of exhibiting your inaccuracies.

Yours faithfully,

VICTOR HORSLEY.

(6) The SECRETARY OF STATE to Sir VICTOR HORSLEY.

Home Office, Whitehall, S.W., 12th May, 1913.

DEAR SIR,—I am desired by the Home Secretary to acknowledge the receipt of your letter of the 8th instant.

When words are quoted out of their context in such a way as to mislead, the insertion of inverted commas does not negative the misrepresentation.

Mr. McKenna would again ask you to let him see the actual written statement made by the doctor who attended Miss Lenton.

Yours faithfully,

J. F. HENDERSON.

(7) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, W., 14th May, 1913.

SIR,—Your letter of the 12th instant is in no respect in answer to mine of the 8th instant, nor have you in any of your letters attempted to justify your conduct in attacking my veracity in the House of Commons on the 18th March, where I was not present.

You then accused Mr. Moullin and myself of making a "statement of the alleged facts ..... remote from the truth," &c.

Now, in order to evade your responsibility for this, you make a new insinuation, namely, that these words of yours, which I again take from Hansard, cols. 890 and 891, and place in inverted commas, do not carry their obvious and common meaning of an attack on our veracity.

If you wish to suggest that your quoted words do not convey what they appear to do, I must require you to forward me as soon as possible what you consider them to mean. As regards the statement of Miss Lenton's doctor you ask for, I must remind you that I forwarded it to you on the 4th instant.

I once more demand, as I did on the 1st instant, that you publicly withdraw the cowardly attack you made on me in the House of Commons on the 18th March.

Yours faithfully,

VICTOR HORSLEY.

P.S.—Since writing my last letter I have discovered that while this correspondence has been passing between us you have characteristically commenced a secret and further cowardly attack upon me at the Royal College of Surgeons. This will be exposed in due course.

(8) The SECRETARY OF STATE to Sir VICTOR HORSLEY.

Home Office, Whithall, S.W., 19th May, 1913.

DEAR SIR,—Mr. McKenna desires me to acknowledge the receipt of your letter of the 14th instant, and to say that, as you fail to produce the written statement made by Miss Lenton's doctor, he must decline to continue the correspondence. Your letter of the 4th instant contained only an extract selected by you.

Yours faithfully,

J. F. HENDERSON.

(9) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, W., 20th May, 1913.

SIR,—Your letter of yesterday's date does not deal with the subject of this correspondence and is no answer to mine of the 14th instant to which it purports to be a reply. It is, therefore, only a subterfuge.

As for the rest of the private letter addressed to me by Miss Lenton's doctor and for which you now ask, it does not concern the inaccuracy of your assertion to the House of Commons, namely, that he agreed with you. The only part of the letter relevant to your assertion I have already forwarded to you and consists of his flat denial of what you attributed to him.

I may add, perhaps, that he also says you cannot possibly have known his opinion, as you never made any proper enquiry of him. I am not primarily concerned, as you know from my letters of May 1st, &c., with your misrepresentation of Miss Lenton's doctor's statements, but with your public attack on me in the House of Commons, where you knew I could not reply.

To my quotations of your words from Hansard you merely suggested that they had some other meaning than the ordinary interpretation.

I have received no answer to my question of May 14—namely, what possible meaning could your words "remote from the truth," &c., bear other than that what I said was not true. By not replying to my letters you will only compromise your honour and the liberal principle of free speech.

Further, I have not yet received from you the copy of the other

[7] This is the same letter as appeared in the "Pall Mall Gazette," as reprinted above.

[8] No such tatement is made by the prison doctors. *See* their reports.

charge you have secretly laid against me at the Royal College of Surgeons of England during this correspondence.

I must repeat my request made to you on the 18th instant[9] that you forward the same immediately.

Yours faithfully,
VICTOR HORSLEY.

No reply was sent to this letter.

(10) Sir VICTOR HORSLEY to the SECRETARY OF STATE.

25, Cavendish-square, W., 18th May, 1913.

SIR,—I request you to send me by return of post the letter in which you have laid a charge against me addressed to the Royal College of Surgeons of England.

I am, yours faithfully,
VICTOR HORSLEY.

(11) The SECRETARY OF STATE to SIR VICTOR HORSLEY.

Home Office, Whitehall, S.W., 21st May, 1913.

DEAR SIR,—As Mr. McKenna is at present out of London, I forwarded to him your letter of the 18th instant. I have now heard from him and he desires me to say in reply that he must refer you to the Royal College of Surgeons, in whose hands he has left the matter.

Yours faithfully,
J. F. HENDERSON.

EXTRACTS[10] from the SPEECH of the HOME SECRETARY in the HOUSE OF COMMONS on 18th March, 1913, relating to the Case of Lilian Lenton.

(Reprinted from Parliamentary Debates, Vol. 50, No. 7, Columns 890–894.)

Mr. MCKENNA: I have dealt with the case on general lines. Let me turn for a moment to the particular instance of Lilian Lenton. A letter quoted by the Noble Lord, and signed by Dr. Agnes Savill, Dr. Charles Mansell Moullin, and Sir Victor Horsley, has appeared in the "Times" this morning, and has been generally circulated. The Noble Lord quoted from that letter, and seemed to be under the impression that one or more of those doctors was the doctor attending personally upon Lilian Lenton.

Lord ROBERT CECIL: No.

Mr. MCKENNA: I understood the Noble Lord to say "her doctor," and that Lilian Lenton's doctor ascribed her illness to the injection of milk into the lungs.

Lord ROBERT CECIL: No, I said I understood these three doctors to say so.

Mr. MCKENNA: If the Noble Lord reads the letter again carefully he will observe that these three doctors abstain from saying that.

Lord ROBERT CECIL: The right hon. Gentleman has got the letter before him. I have not, as I omitted to bring it to the House. It is perfectly plain what they say; that there was forcible feeding, and that immediately after it there was a breakdown, and the woman was in a condition of collapse until she was removed, and that she was seen to be suffering from pleurisy. I should have thought that there could be no question that the general effect of their letter was to say that forcible feeding was the cause of pleurisy, and I rather think they suggest that the leaking of some liquid food into the lung caused it.

Mr. MCKENNA: They do not suggest it; they assert it. The Noble Lord is quite right so far, but where he has been misled is in thinking that these doctors are speaking on the authority of Miss Lilian Lenton's own doctor. That they do not assert. What their knowledge of the case is I have no means of knowing. They do not themselves even say that they have seen her, but certainly their statement of the alleged facts is so remote from the truth that I cannot help coming to the conclusion that they have never even seen Miss Lilian Lenton. I am going to read to the House the report of the deputy medical officer upon this case. He reports as follows:—

> "She was received here on remand on 21st February, 1913. I saw her shortly after her reception, when she refused to be medically examined and declined to give any information about her previous health. She was of rather spare physique and struck me as not being a particularly strong-looking woman, but I was unable to ascertain anything further about her on account of her refusal of an examination. She adopted the hunger strike tactics from the commencement, and consequently, on 23rd February, I considered it advisable to feed her as she was presenting symptoms of malnutrition. She was examined both by Dr. Pearson and myself before the commencement of the feeding, though under great difficulties, as she resisted violently. She was fed by the nasal tube, which passed easily. During the process there was no cough, stridor, or dyspnœa (difficulty in breathing), and there was no indication of any food having passed into the larynx, as alleged. She rested for a little while after the feeding and appeared quite comfortable. About three hours later she asked to go to the lavatory. About 10 minutes after her return she complained of a pain in the left side, and she then allowed me to examine her. I ascertained that she had been subject to attacks of pain in this region and shortness of breath on exertion for the last 12 months, but apparently she had not received medical advice about it. On examination I found slight dulness in the lower part of the left axillary region and some doubtful friction sounds. The cardiac action was rapid, but I could detect no organic disease. The pain in the side was increased on taking a deep breath. I came to the conclusion that she was suffering from pleurisy, which may have been present before, judging from her history, and which had become acute again. Considering the facts that she would take no nourishment or medicines, that she had been without food for two days, and that her life would be endangered under such circumstances, and it was quite impossible to artificially feed her again, the only alternative was to report the facts to the Home Office. There was nothing to suggest in the case that her condition was due to food entering her lungs, and this is borne out, I understand, by her own medical attendant, under whose care she has been since and who reported that she was now convalescent."

I ask the Committee to observe upon that statement that it was not until three hours after, and not immediately, as Dr. Agnes Savill alleged, that Miss Lenton became ill. I now turn to the second doctor. He reports as follows:—

> "On instructions being given for this woman's release, I accompanied her in the taxi-cab with a hospital officer to her home. I assisted in carrying her to her room and told the friends I would like to hand over the case to some doctor who lived in the neighbourhood. They refused to take my advice, and decided to wait for another doctor. After finding the patient was comfortably in bed, I left, giving instructions that the medical attendant whom they called should be told that the patient was, as far as I could tell, suffering from pleurisy, and that the symptoms began about 2 P.M. On hearing of the doctor who was attending the case, I called on him the following day to discuss the case, and he has kept me informed of the progress of the patient up to yesterday, when he reported her as convalescent. The doctor has agreed throughout with Dr. Forward and me that her symptoms could in no way be attributable to the presence of food in the lungs. There have been no indications of bronchitis or pneumonia, which would have undoubtedly been present had such been the case. We are all agreed that the patient has had an attack of pleurisy, to which she was probably predisposed, judging from her previous history."

I am glad to give the House the full circumstances of this case in order that the House may judge in this instance, as in so many, the sort of attack founded upon nothing except hearsay, misunderstanding, and prejudice, and very often prompted by an earnest desire to forward a particular political movement, a sort of attack to which the Home Office is continually subjected, and—I appeal to hon. members for sympathy in this matter—the difficulty under which we are placed in conducting our work. In the midst of an effort to maintain order in the prisons, and to maintain order amongst the public, we get this attack launched at us by Sir Victor Horsley and others founded on unsubstantiated facts, and even so acute an observer as the Noble Lord is entirely misled and believes that the attack is founded upon the report of the patient's own doctor. Not at all. The patient's own doctor agrees with our doctors—

Sir A. MARKHAM: It is an *ex parte* statement of one doctor. The doctor of the lady has not made a statement.

Mr. MCKENNA: The doctor of the lady can contradict it at any time. I am quoting from the report of a medical man who is an honourable man and is accustomed to weigh his words, and he reports to me that the doctor who has attended on her, and has kept in communication with him from day to day, *agreed with him that there was no indication that the illness was due to the presence of food in the lungs.* Then as to the other statement in this letter, of course I do not doubt that the hon. member (Sir A. Markham) will say again that this is only the *ex parte* statement of the doctor. . . . . .

The medical inspector, after reading the letter of Dr. Agnes Savill and others, reports as follows:—

> "The statement that the condition was due to food being forced into the prisoner's lungs is not true. Her collapsed condition was primarily due to wilful abstinence from food. This in a person physically not robust, and who subsequently gave a history of pain in the left side of the chest, with shortness of breath on exertion, for a period of twelve months, would be more liable to cause cardiac failure to occur sooner than in a person in robust health and without the above history. She was not tied into a chair, but a sheet was thrown around her body and she was restrained by officers. Her head was not dragged across the back of the chair by her hair. This is not the usual method of restraining these prisoners. They are restrained by female officers, and, if the resistance is very great and violent, by an attendant controlling each limb, *i.e.*, four officers. Another officer holds the head by placing the hands on each side of the patient's head, and a sixth officer would be in charge of the food. The tube was not forced through the nose twice, but passed only once, and that without difficulty, the tube passing to the usual distance. The interior of the mouth was examined before food was administered to ascertain whether there was any coiling of the tube. Both of the doctors in attendance are perfectly certain that the tube was not passed into the air passage. There was no choking; there was no difficulty of breathing nor noisy respiration. Neither doctor told her to breathe more quietly; there was no noisy rattling. There was no coughing at the time of the feeding. About half a pint of nourishment was given. It is not true that the food was passed in twice and it came back at once and out of the mouth. About an ounce was regurgitated at the conclusion of the feeding, and the tube was withdrawn at once. She did not fall against the wall, but was assisted to lie down on her mattress. There was no rattling, but quite quiet breathing. No pain was complained of or other complaint made for three hours after, when she asked to go to the lavatory. She walked across the hall without showing any indication of illness. Five minutes after her return to her cell she rang her bell and said she felt faint, and the doctor was summoned. She was not removed from the prison until six o'clock, when, having voluntarily taken some warm nourishment, she was considered to be fit to be moved to the care of her friends. The fact that she is now stated to be convalescent in itself negatives that food was forced into the lung."

These are the reports that I received. They come from medical officers in whom I have every reason for having confidence—in whom I have confidence. I ask the House, in judging of this case and of other cases, to compare these statements with such a letter as that which was written by Dr. Agnes Savill. Dr. Savill does not purport to allege that her case is founded even on direct communication from Lilian Lenton. It does not purport to be supported by any other evidence. I should be only too glad for a case of this kind to be made a test case, in order that the House may be completely satisfied whether in the treatment of these prisoners we do not exercise every possible degree of humanity and that we do nothing more than carry out the law as it stands.

[9] *See* (10) below.

[10] These extracts contain all that was said in the speech with regard to Lilian Lenton's illness and treatment in prison.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Surgery of the Eye. A Handbook for Students and Practitioners. By Ervin Török, M.D., Surgeon to the New York Ophthalmic and Aural Institute, and Gerald H. Grout, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute. Price 18s. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Orthopædics in Medical Practice. By Prof. Adolf Lorenz, Regierungsrat, Director of the Imperial University Ambulatorium for Orthopædic Surgery in Vienna, and Dr. Alfred Saxl,

Assistant Surgeon in the Imperial University Ambulatorium for Orthopædic Surgery in Vienna. Authorised Translation from the German by L. C. Peel Ritchie, Ch.M., M.D., F.R.C.S. Edin., Price 7*s.* 6*d.* net.

Studies on the Influence of Thermal Environment on the Circulation and the Body-Heat. By Edgar R. Lyth, M.B. Durham, M.R.C.S. Eng. Price 2*s.* 6*d.* net.

Clinical Surgical Diagnosis for Students and Practitioners. By F. de Quervain, Professor of Surgery and Director of the Surgical Clinic at the University of Basle. Translated from the Fourth Edition by J. Snowman, M.D. Price 25*s.* net.

DENT, J. M. AND SONS, LIMITED, Bedford-street, Strand, London, W.C.

A Plea for the Thorough and Unbiassed Investigation of Christian Science. By an Enquirer. Price 1*s.* net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, Edinburgh, Glasgow, and London.

Cunningham's Text-book of Anatomy. Edited by Arthur Robinson, M.D., F.R.C.S. Ed., Professor of Anatomy, University of Edinburgh. Fourth edition, enlarged and rewritten. Price 31*s.* 6*d.* net.

GUY'S HOSPITAL GAZETTE, Manager of, Guy's Hospital, London Bridge, S.E. GRATTAN, H. H. G., 17, Borough High-street, London, S.E.

ASH AND CO., LIMITED, Henry-street, Tooley-street, London, S.E.

Historical Notes on the Borough and the Borough Hospitals. By R. M. Wingent. Price 3*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AITKEN, R. Y., M.D. Glasg., F.R.C.S. Eng., has been appointed Medical Referee under the Workmen's Compensation Act to No. 4 Circuit.

BARBER, H. W., M.B. Cantab., has been appointed Medical Registrar to Guy's Hospital.

BARNES, H. PATRICIA, M.B., B.S. Lond., has been appointed House Physician at the East Suffolk and Ipswich Hospital.

BIRD, GEORGE WILLIAM HARVEY, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bridgwater Workhouse Infirmary.

BROCKBANK, E. M., M.D. Vict. Manch., M.R.C.P Lond., has been appointed Lecturer in Clinical Medicine in the University of Manchester.

BROMLEY, L., M.B., B.C. Cantab., has been reappointed Anæsthetist to Guy's Hospital.

CLEMINSON, F. J., M.C. Camb., F.R.C.S., has been appointed Assistant to the Ear and Throat Department at University College Hospital.

CUNLIFFE, E. N., M.D. Vict. Manch., M.R.C.P. Lond., has been appointed Lecturer in Clinical Medicine in the University of Manchester.

DARBY, W. S., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Harrow District of the county of Middlesex.

DAVIES, J. L., M.B., B.S., has been appointed House Surgeon at University College Hospital.

DINNICK, OSWALD TILSON, M.B. Tor., M.R C.S., L.R.C P. Lond., has been appointed Assistant Surgical Registrar to the Samaritan Free Hospital for Women London.

DORAN, S. S., L.D.S. R.C.S. Eng., has been appointed Lecturer in Dental Surgery and Pathology in the University of Manchester.

DOUGLAS, J. S. C., D.M. Oxon., has been appointed Lecturer in Pathology in the University of Manchester.

DYSON, WILLIAM, M.D. Vict., has been appointed Honorary Special Lecturer in Dermatology in the Victoria University of Manchester.

GARDINER, H., M.B., B.S. Lond., has been appointed Anæsthetist to Guy's Hospital.

HANBURY, LANGDON FULLER, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Superintendent to the West Ham Borough Asylum, Ilford.

HEATON, T. B., M.B. Oxon., has been appointed Medical Registrar to Guy's Hospital.

HUNTER, DAVID, M.A., M.B. Cantab., has been appointed Medical Superintendent to the Coppice Mental Hospital, Nottingham.

IRDELL, C. E., M.D. Lond., M.R.C.P. Lond., has been reappointed Surgeon in Charge of the Actino-therapeutic Department at Guy's Hospital.

MCNAIR, A. J., M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist and Obstetric Registrar to Guy's Hospital.

MARSHALL, G., M.B., B.S. Lond., has been appointed Demonstrator of Physiology to Guy's Hospital.

PAGE H. M., F.R.C.S. Eng., has been reappointed Anæsthetist to Guy's Hospital.

POPE, H. B., M.D. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Clevedon District of the county of Somerset.

POULTON, E. P., M.B. Oxon., M.R.C.P. Lond., has been appointed Medical Registrar to Guy's Hospital.

RAMSBOTTOM, A., M.D. Vict. Manch., D.P.H., M.R.C.P. Lond., has been appointed Lecturer in Clinical Medicine in the University of Manchester.

REES, F. H., M.B., B.S. Lond., has been appointed House Surgeon at University College Hospital.

RITCHIE, JAMES, M.D. Edin., F.R.C.P. Edin., has been appointed to the new Chair of Bacteriology in the University of Edinburgh.

SANER J. G. B.C. Cantab., has been appointed Resident Surgical Officer to Guy's Hospital.

SHAW, JOHN CUSTANCE M.R.C.S., L.R.C.P. Lond., has been appointed Deputy Medical Superintendent to the West Ham Borough Asylum, Ilford.

SHIPWAY, F. E., M.D., B.C. Cantab., has been reappointed Anæsthetist to Guy's Hospital.

TODD, A. H., M.B., B.S. Lond., has been reappointed Anæsthetist and Surgical Registrar to Guy's Hospital.

TONKS, J. W., M.R.C.S., L.R.C.P. Lond., has been appointed Obstetric Assistant to University College Hospital.

WHITEHOUSE, BECKWITH, M.S. Lond., F.R.C.S. Eng., has been appointed a Hunterian Professor to the Royal College of Surgeons of England.

WILLIAMS, PENROSE LANYON WATKIN, F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Consulting Surgeon to the Bridgwater Workhouse Infirmary.

WILLIAMSON, R. T., M.D. Lond., M.R.C.S., has been appointed Lecturer in Clinical Medicine in the University of Manchester.

WOODHOUSE, B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £100 per annum, with board and residence.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer and Junior Resident Medical Officer, both for six months. Salary at rate of £60 and £40 per annum respectively, with board, residence, &c.

BENENDEN NATIONAL SANATORIUM, Kent.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £75 per annum, with board, rooms, &c.

BIRMINGHAM, RUBERY HILL ASYLUM.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM, SALTERLEY GRANGE SANATORIUM FOR CONSUMPTION, near Cheltenham.—Resident Medical Officer. Salary £300 per annum, with board, &c.

BIRMINGHAM UNION, SELLY OAK INFIRMARY.—Resident Assistant Medical Officer. Salary £160 per annum.

BOOTLE BOROUGH GENERAL HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and laundry.

BRENTWOOD, ESSEX COUNTY ASYLUM.—Two Assistant Medical Officers. Salary in each case £200 per annum, with board, &c.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—House Physician. Salary at rate of £100 per annum, with apartments, board, and laundry.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—Senior and Junior House Surgeons for six months. Salary £80 and £70 per annum respectively. Also First Assistant to Research Department. Salary £350 per annum.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant Medical Officer, unmarried. Salary £220 per annum, with apartments, attendance, laundry, &c.

CANTERBURY MENTAL HOSPITAL, Canterbury.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Bacteriologist. Salary £50 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Two House Physicians for six months. Salary at rate of £75 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Physician and Junior House Surgeon. Salary £90 per annum each, with residence, board, and laundry.

CROYDON GENERAL HOSPITAL.—Junior House Surgeon for six months. Salary £80 per annum, with board, laundry, and residence.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £110 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

DUBLIN, ROYAL VICTORIA EYE AND EAR HOSPITAL, Adelaide-road.—House Surgeon. Salary £40 per annum, with board and residence.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician and Assistant Casualty Officer for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c. Also Assistant Surgeon to Out-patients.

EAST SUFFOLK, ADMINISTRATIVE COUNTY OF.—Two Assistants to County Medical Officer of Health. Salary £300 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board, washing, and lodging.

EDMONTON INFIRMARY 77, Bridport-road, Upper Edmonton.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with residential allowances.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Physician on the Acting Medical Staff. Also Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GRETNA PARISH COUNCIL.—Medical Officer.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum. Also Junior House Surgeon. Salary £80 per annum, with board, lodging, attendance, and washing.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HAMMERSMITH INFIRMARY AND WORKHOUSE.—Second Assistant Medical Officer. Salary £110 per annum, with board, lodging, washing, and attendance.

HARRIS, PARISH OF.—Medical Officer and Public Vaccinator. Salary £120 per annum.

HARROGATE, HEATHERDENE CONVALESCENT HOME.—Honorary Surgeon.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HEREFORD COUNTY AND CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £155 per annum, all found except stimulants.

HITCHIN, THREE COUNTIES ASYLUM.—Junior Assistant Medical Officer. Salary £200 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—House Surgeon. Salary £50 per annum, with board and laundry. Also Assistant House Surgeon. Salary £45 per annum, with board and laundry.

JARROW BOROUGH EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Vacancy on Honorary Medical Staff. Also Locum Tenens for two months. Salary 4 guineas a week, with board, apartments, laundry, &c.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LANCASHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board.

LEICESTER, LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM, Narborough, near Leicester.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and washing.

LIVERPOOL STANLEY HOSPITAL.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator of Pharmacology. Salary £200 per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £160 per annum, with apartments, attendance, &c.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with rooms, board, and laundry.

MANCHESTER WORKHOUSE, Crumpsall.—Junior Resident Assistant Medical Officer, unmarried. Salary £110 per annum, with rations, apartments, washing, attendance, &c.

MERTHYR TYDFIL UNION WORKHOUSE AND PONTSARN SANATORIUM.—Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon and Assistant House Surgeon for six months. Salary at rate of £60 and £40 respectively, and each with board and washing. Also Surgeon.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Resident Medical Officer. Salary £150 per annum, with board, attendance, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Northwood.—House Physician. Salary £75 per annum, with board, residence, and washing.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary £200 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

OLDHAM, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £260 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence. Also Clinical Assistants.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistants in the Out-patient Department.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five appointments.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

ST. GILES AND BLOOMSBURY INFIRMARY, PARISHES OF, Cleveland-street, Fitzroy-square, W.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, washing, attendance, &c.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary £70 per annum, with board and residence.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon. Salary £150 per annum, with board, washing, and residence.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary £300 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Third Assistant Medical Officer (female). Salary £120 per annum, with board, &c.

STOKE-UPON-TRENT UNION WORKHOUSE AND HOSPITAL, London-road, Newcastle, Staffs.—Assistant Resident Medical Officer, unmarried. Salary £160 per annum, with rations, apartments, and washing.

SUNDERLAND ROYAL INFIRMARY.—House Physician and Two Junior House Surgeons. Salary £90 per annum in each case, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board, washing, and attendance.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, DEPARTMENT OF BACTERIOLOGY.—Demonstrator.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, laundry, and attendance.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

WARWICK ASYLUM.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, residence, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £100 per annum. Junior House Physician. Salary £75 per annum, each with board residence, &c. Also Honorary Dental Surgeon.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board and lodging.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £120 per annum, with rations, apartments, and washing.

WILTS COUNTY COUNCIL.—County School Dentist. Salary at rate of £250 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, rooms, and laundry.

WOMEN'S HOSPITAL FOR CHILDREN, 688, Harrow-road.—Honorary Dental Surgeon (Female).

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and washing.

YORK, NORTH RIDING ASYLUM, Clifton.—Senior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, washing, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Hoo, in the county of Kent, and at Kidsgrove, in the county of Stafford.

Births, Marriages, and Deaths.

BIRTHS.

JEUDWINE.—On July 9th, at Brooklands, Filey, the wife of Captain W. W. Jeudwine, I.M.S., of a son.

MCLEAN.—On July 12th, at Bay View, Rushbrooke, co. Cork, Ireland, the wife of W. MCLEAN, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

DIXON—ALLEN.—On July 5th, at Christ Church, Sutton, Surrey, Robert Halstead Dixon, M.B. Lond., of Ealing, to Edith Kate, only daughter of the late George Allen and of Mrs. Allen, Farringford, Sutton, Surrey.

HALL—MEIN.—On July 10th, at Jesmond Parish Church, Newcastle-on-Tyne. George Hall, M.D., B.Sc., M.R.C.P., of Newcastle-on-Tyne, to Margaret, elder daughter of Mr. N. and the late Mrs. Mein.

DEATHS.

JOHNSON.—On July 8th, after a long illness, at Talbot-road, Bayswater, W., William Alfred Johnson, M.D., L.R.C.P., L.S.A. Lond., aged 84 years.

MABERLY.—On July 6th, at Kingsway, Burnham, Somerset, G. F. Maberly, M.R.C.S., in his 90th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ESPERANTO AND THE INTERNATIONAL MEDICAL CONGRESS.

THE organising committee of the Seventeenth International Congress of Medicine in London has granted the use of the Geological Laboratory in the Royal School of Mines for the meetings of the Universal Esperanto Medical Association (Tutmonda Esperanta Kuracista Asocio). The meetings will be opened by a short series of lectures in many languages on Esperanto and the Medical Profession. Subsequently only Esperanto will be used. Intimations that papers will be read have already been received from Professor G. Sims Woodhead, Dr. Nemser (St. Petersburg), Dr. Sidlovskij (Moscow) (Result of Inquiry Concerning Backward Children in Moscow Schools), Dr. W. Robin (Warsaw) (On the Sounds of the Duodenum), and Mr. F. W. Alexander (London) (Sea Baths and Electricity as Health Restorers). Other papers are expected. The London Esperanto Club has kindly invited all medical men interested in Esperanto to a conversazione and concert in St. Bride's Institute, Ludgate-circus, on Friday, August 8th, at 7.45 P.M. Those intending to be present at the meeting should send their names to the president of the association, Mr. G. Jameson Johnston, 13, Lower Fitzwilliam-street, Dublin, as soon as possible. The usual annual congress of the T.E.K.A. will take place in the University of Berne in the last week of August during the Ninth Universal Esperanto Congress.

THE TUBERCULOSIS CRUSADE.

SINCE education of the public is so important a factor in the crusade against tuberculosis, every well-directed effort to disseminate practical knowledge of the subject is commendable. Some Factors in the Fight with Tuberculosis is the title of a paper read by Dr. J. King Patrick, assistant medical officer of health, county borough of Leicester, at a meeting at Hampstead, now published as a pamphlet by the North-Eastern Newspapers, Limited. In it Dr. Patrick discusses in considerable detail the bearing on consumption of housing, factories and shops, schools, food, milk, and milk products. He gives a modification of Sir Robert Philip's well-known diagram illustrating the administrative control of tuberculosis, and discusses notification, disinfection, dispensaries, sanatoriums, hospitals for advanced cases, farm colonies, and the coördination of preventive and curative measures.

BEATING A RETREAT.

A CORRESPONDENT in British Columbia writes:—

> The slang of a new place is unintelligible and often disconcerting. In Western Canada the expression to "beat it" or "hit it" means "to go away," and is really elliptical. You "beat" or "hit" "the grade," which is the "right of way," which is the railway track, used as the road in a country with no turnpikes, and you "beat" or "hit" the grade with your feet. This usage seriously confused lately a man newly out from England. There had been a scarlet fever case in his family, and the health officer was explaining disinfection by formalin and permanganate. "You put the crystals in a bucket," said he, "pour the formalin over them, and then you beat it, quick." Everyone who is familiar with this method and the great volume of irritating gas that comes off at once will understand why the new-comer when next he met the doctor hoped the disinfection had been thorough. "But I couldn't do everything you told me. I had a piece of wood to beat it with as you said, only I couldn't stay, and had to run."

PUBLIC HEALTH IN PALESTINE.

Mr. P. J. C. McGregor, H.M. Consul at Jerusalem, in his annual report, observes that the year 1912 was a fairly average one as regards health. With reference to epidemic diseases of children, such as measles, scarlet fever, epidemic diarrhœa, and whooping-cough, the year was probably better than usual, as none of these diseases spread widely. Towards the close of the year there was a slight epidemic of typhus fever in Jerusalem, and a few cases of relapsing fever in the neighbourhood of Bethlehem. The only disease which visited the land in severe epidemic form was dengue fever. This was very prevalent along the coast during the summer months, but in September found its way inland to the mountain region, where it visited in turn Jerusalem, Bethlehem, Hebron, and even the east of the Jordan. During October and November it was very widespread among the poorer classes of Jerusalem, probably quite 50 per cent. of the poor within the city walls being attacked. It is over 20 years since this disease has been so prevalent in the mountain lands, for usually its ravages are confined to the low-lying coast. Though painful and debilitating, this illness appears to have a very low mortality. The ever-present malarial fevers of Palestime were, during the autumn, the subject of a very thorough and exhaustive investigation by Professor Mühlens, of the School of Tropical Medicine at Hamburg. He confirmed the observations of the local medical faculty with regard to the extreme prevalence of malarial fevers during August, September, October, and November in Jerusalem, and he showed that during those months about 75 per cent. of all malarial fevers were cases of subtertian (tropical) malaria. Among the day pupils in some of the schools—especially those for Jewesses—he found that 30 per cent. of the pupils actually attending the schools had malarial parasites in the blood. A few cases of hæmoglobinuria (blackwater) fever were also observed and investigated. Measures are now set on foot to combat these and other dangers to the health of Palestine.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. MacCormac: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. G. Buchanan: Psycho-therapy.
TUESDAY.—4 P.M., Dr. E. Wynter: Clinique (Medical). 5.15 P.M., Lecture:—Mr. R. Warren: Operative Treatment of Fractures.
WEDNESDAY.—4 P.M., Mr. L. Mummery: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. D. Windle: Respiration and Pulse in Functional Nervous Conditions (lantern demonstration).
THURSDAY.—4 P.M., Mr. E. R. Carling: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. F. Tredgold: Convulsions and their Mental Significance.
FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye). 5.15 P.M., Lecture:—Dr. W. Wingrave: Bacteriuria.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Clinical.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Addison: Clinical.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Addison: Clinical.
THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Orthopædics. Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. Mr. Baldwin: Operations. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).
TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).
WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. Dr. A. Davies: Pathological Demonstration. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. 3.15 P.M., Dr. R. Wells: Medicine.
FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: The Hæmorrhages of Pregnancy—Abortion. 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations. 4 P.M., Class in Gynæcological Diagnosis.
WEDNESDAY.—10 A.M., Obstetrical Lecture: The Hæmorrhages of Pregnancy—Accidental Hæmorrhage. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: Pelvic Tumours. 11 A.M., Examination of Patients and Minor Operations. 4 P.M., Class in Gynæcological Diagnosis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 26th–Nov. 5th (Ghent).—International Exhibition.
May 31st to October (London, Earl's Court).—Imperial Services Exhibition.
May–October (Leipzig).—First International Building Exhibition.
June–October (London, Crystal Palace).—Anglo-German Exhibition.
June 24th (opened) (London, 54a, Wigmore-street).—Historical Medical Museum. (Organised by Mr. Henry S. Wellcome.)
July 18th–25th (London).—Imperial Motor Transport Conference.
,, 21st–24th (London).—British Pharmaceutical Conference.
,, 22nd–25th (Brighton).—Eighty-first Annual Meeting of the British Medical Association.
Aug. 1st–3rd (Ghent).—Congress against the Adulteration and Deterioration of Foodstuffs.
,, 1st–5th (Brussels).—Third International Conference on Cancer.
,, 3rd–8th (London).—Sixth International Dental Congress.
,, 4th and 5th (London, Caxton Hall).—English-speaking Conference on Infant Mortality.
,, 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 20th–26th (Ghent).—Third International Congress of Neurology and Psychiatry.
,, 25th–30th (Buffalo).—Fourth International Congress of School Hygiene.
,, 31st–Sept. 7th (Antwerp).—Fourth International Congress for the Hygiene and Salubrity of Dwellings.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
,, 9th–13th (Vienna).—Second International Congress of Life Saving and Prevention of Accidents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial Staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 16th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 10	29·83	SSE.	0·03	109	68	57	58	58	Overcast
,, 11	29·94	N.	...	107	69	55	56	59	Cloudy
,, 12	30·02	S.W.	...	108	72	58	60	65	Cloudy
,, 13	30·01	S.W.	...	96	69	57	59	63	Overcast
,, 14	29·96	W.	0·50	97	72	57	60	64	Cloudy
,, 15	29·85	N.E.	0·25	85	62	51	55	55	Raining
,, 16	30·00	N.	...	92	65	55	58	61	Cloudy

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